Volume XXXV.
Number 6.

SEPTEMBER, 1908.

$2.00 per year.
$3.00 with Directory.

1868 **TEXTILE** 1908

WORLD RECORD

Special Features

Gambling in Cotton with "Matched Orders."

Members of Textile Associations Vote on Question of Uniting

Full Fashioned Knitting.

Wool Carding and Carding Machinery.

The Warehousing of Cotton.

Dyeing Resist Effects.

LORD & NAGLE COMPANY · BOSTON, MASS.

JOHN JEPSON, BOSTON.

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The Textile-Finishing Machinery Co.

HOWARD BUILDING

STAIRWAYS, 83 EXCHANGE PLACE [ENTRANCES] ELEVATOR, 171 WESTMINSTER ST.

PROVIDENCE, R. I.

BUILDERS OF ALL KINDS OF

MACHINERY

FOR

BLEACHING
DYEING
DRYING

AND

FINISHING

Singeing Machines,

Boiling Kiers,

Washers, Squeezers,

Chemic and Sour

Rusden Patent

Continuous Chainless

Steamer,

Aniline Agers,

Dyeing Machines,

Open Soapers,

Blanket Washers,

Color Kettles,

Horizontal or Vertical Drying Machines, with Copper or Tinned Iron Cylinders,

Automatic Tentering Machines,

Water and Starch Mangles,

Dampening Machines,

Dyeing Machines for Chain Warps.

Calenders for Rolling, Glazing, Chasing and Embossing, also Calenders for Moire Finish.

Sole Manufacturers of Patented Flexible Cloth Expander for Cylinder Drying Machines, Calenders, Mangles, &c.

Patent Combination Rolls Made of Cotton and Husk, especially adapted for Soft Finish, Unequalled for Elasticity and Durability.

Cotton, Paper, Husk, Chilled Iron, Brass and Rubber Rolls, Electro-deposited Copper Rolls for all Purposes.

Padding and Drying Machines for Shade Cloths.

Single and Double Cylinder Engines.

Hydraulic Presses and Pumps.

Mercerizing Machinery for Piece Goods and Yarn in the Warp or Chain

ALL KINDS OF OUTFITS FOR BLEACHING THREAD AND SOFT TWISTED YARN.
BLEACHING MACHINERY FOR YARNS IN THE WARP OR CHAIN.

Estimates, Drawings and full particulars of complete plants furnished on application

Southern Agent, STUART W. CRAMER, Charlotte, N. C., Equitable Building, Atlanta, Ga.

T.

g.
nd
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n-

of e
pr
s.

Warp
Dyeing Machine

Single Compartment
Providing for separate
removal of small rollers
in box.

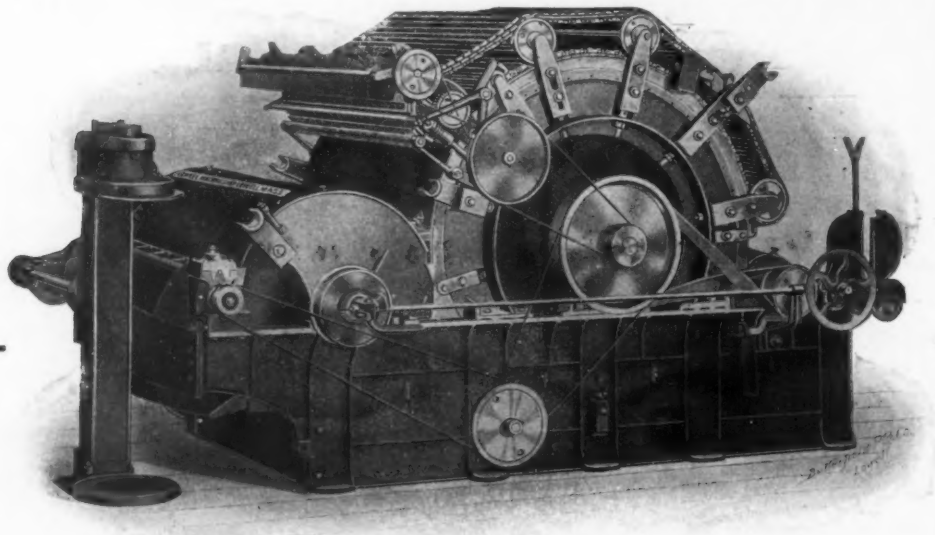
Bleaching,
Dyeing, Drying,
Finishing Machinery

for all textile fabrics.

H. W. BUTTERWORTH & SONS CO.

PHILADELPHIA, PA.

Providence Office, Room 417, Industrial Trust Building.



Cotton and Worsted Machinery

With Modifications to Suit Any Class of Work.

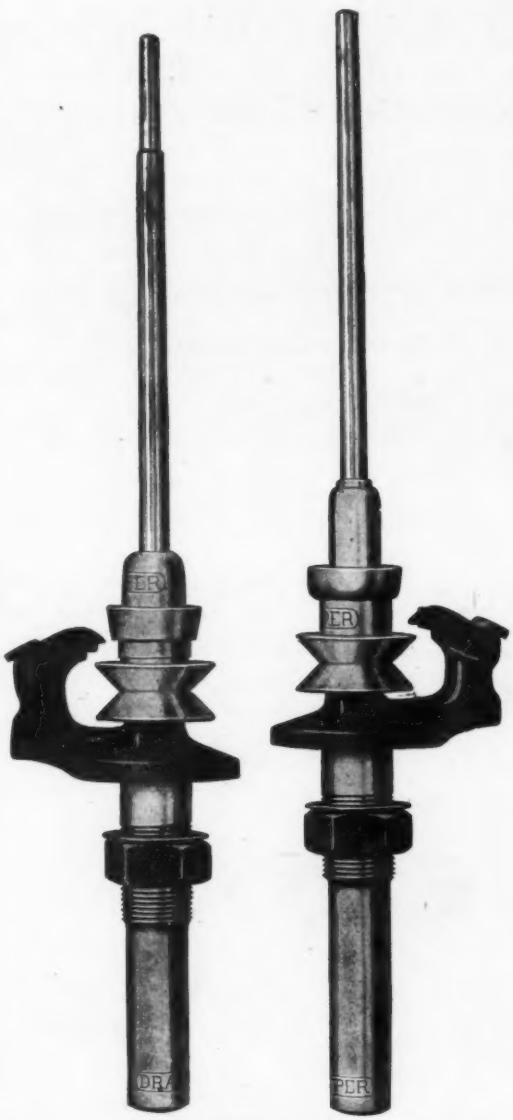
Cotton Machinery: Cards, Railway Heads, Drawing Frames, Fly Frames, Speeders, Ring Spinning Frames, Twisters, Spoolers, Reels, Warpers, Slashers, Winders, Looms, Shearing Machines, Balling Machines, Folders, Stamping Machines, Sewing Machines, Size Pumps, Size Kettles, Drawing-in Frames, Baling Presses, Indigo Grinders.

Worsted Machinery: Spinning Frames with caps, rings or flyers, Dandy Rovers and Reducers, Cone Second Finishers, Reducers and Rovers, Gill Boxes for Drawing, Preparing and Finishing, Weigh Boxes and Drawing Boxes, Cap Trap, Flyer and Ring Twisters.

Plans, Specifications and Estimates furnished upon application.

Lowell Machine Shop

LOWELL, MASS.



Two New
Large Size
Spinning Spindles.

We make

Draper,
Whitin,
McMullan

and other
types of

Spindles;

also

Northrop Looms,

Twisters,
Warpers,
Spoolers,
Reels,

Banding Machines,

etc., etc.

Draper Company,
HOPEDALE,
MASS.

THE EMPHATIC SUCCESS OF OUR "IDEAL" AUTOMATIC LOOM IS DUE TO SEVERAL SALIENT POINTS OF SUPERIORITY OVER ALL COMPETITORS:

1st. The ease and smoothness with which they start up.

2d. The acknowledged superiority of the cloth woven.

3d. Simple and thoroughly mechanical construction, assuring freedom from the constant breakage and expensive repairs attending other automatic looms.

4th. No special bobbins, shuttles or other expensive parts.

5th. Ability to use cop or bobbin filling interchangeably.

6th. Superiority of warp stop motion which does not break or fray the softest yarn.

7th. Of the thousands in operation not a single bobbin or crank shaft broken.

IN PROOF OF CLAIMS WE POINT TO THOSE MILLS FORMERLY USING OUR COMPETITORS' LOOMS THAT ARE NOW USING OURS.

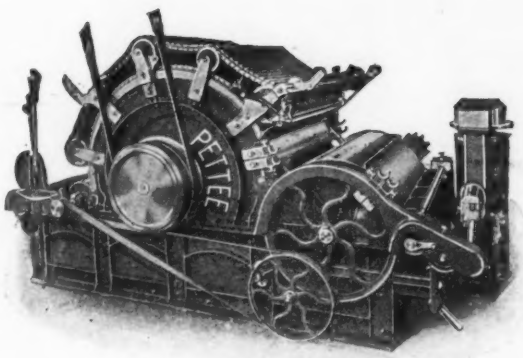
The Stafford Company

Readville, Mass.

Saco and Pettee Machine Shops

NEWTON UPPER FALLS, MASS., U. S. A.

COTTON MACHINERY



Revolving
Flat Cards,
Drawing
Frames,
Railway Heads,
Slubbing,
Intermediate
and
Roving
Frames,
Spinning Frames,
Spoolers
and
Reels.

Shops—

Biddeford, Me.

Newton Upper Falls, Mass.

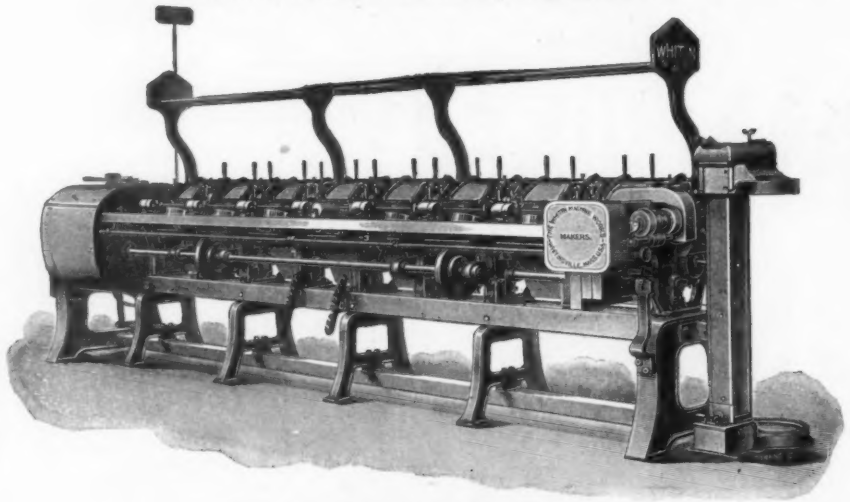
Southern Agent, A. H. WASHBURN, Charlotte, N. C.

THE

WHITIN MACHINE WORKS,

Cotton Machinery

WHITINSVILLE, MASS.



HIGH SPEED COMBER 1906 MODEL.

Revolving Flat Carding Engines,
Sliver Lap Machines,
Ribbon Lap Machines, Combers,
Railway Heads, Drawing Frames,
Spinning Frames, Spoolers, Twisters,
Long Chain Quilling Machines, Reels, Looms.

Southern Agent,
S. W. CRAMER

Trust Building, CHARLOTTE, N. C.
Equitable Building, ATLANTA, GA.

"Kitson Products"

Blowing Systems

For Conveying Bale Cotton
from Storehouse to Picker-room

Self-Feeding Openers
Lappers and
Cleaning Trunks

Waste-Working Machinery

Raw Stock Cotton Dryers

We own the Patterns and can furnish REPAIR PARTS for PICKERS
formerly built by

WHITEHEAD & ATHERTON, . Lowell, Mass.
ATHERTON MACHINE CO., - - Lowell, Mass.
A. T. ATHERTON MACHINE CO., Pawtucket, R. I.

Kitson Machine Shop

Lowell, Mass.

SCOTT & WILLIAMS

2079 E. Cumberland Street, Philadelphia, Pa., U. S. A.

BUILDERS OF

Full Particulars, Samples nnd Special Catalogues on Application.

Rib Knitting Machinery for Underwear and Hosiery

Plain, Single Lever or with Welt, Slack Course and Automatic Slackening Device for Welt.

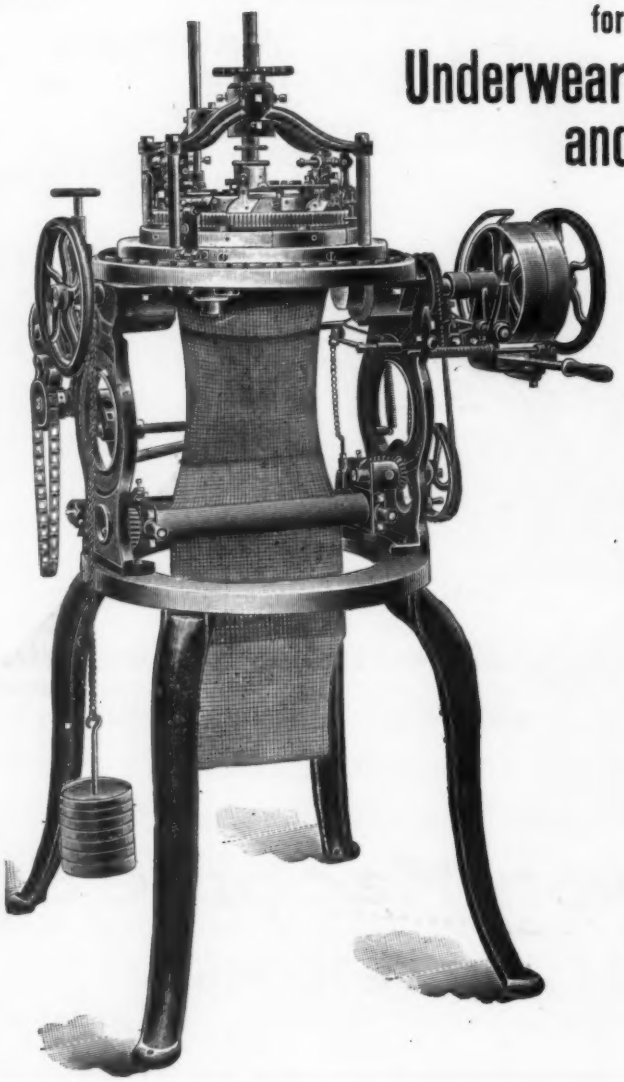
Improved Measuring Device, by actual length knit.

Sizes 8 to 24 inches, inclusive, varying by one inch.

Number of Feeds, 4 to 12, according to style and diameter of machine.

Solid Forged Steel Cylinders, specially hardened or with patent inserted walls for fine fabric.

Special Machinery for Sweaters, etc.



The illustration shows our

Improved High Speed Single Lever Automatic Ribbed Underwear Machine

for making ladies' and gents' ribbed underwear, union suits, etc., plain and shaped.

We build Loopers, Ribbers and other Machinery for Knitting Mills

As well as

A Complete Line of Full Automatic and 7-8 Automatic Seamless Hosiery Machinery.

THE ECONOMIES OF UPKEEP
RESULTING FROM THE SELF OILING FEATURE
OF UNIVERSAL WINDING MACHINES FOR
CONING, TUBING, DOUBLING
AND
BOBBIN WINDING FOR BROAD LOOMS
ALONE PAYS A HANDSOME INTEREST ON THE INVESTMENT

Universal Winding Co.

95 South Street, Boston, Mass., U. S. A.

INTERNATIONAL WINDING COMPANY

Saville St., Oxford Road, Manchester, England

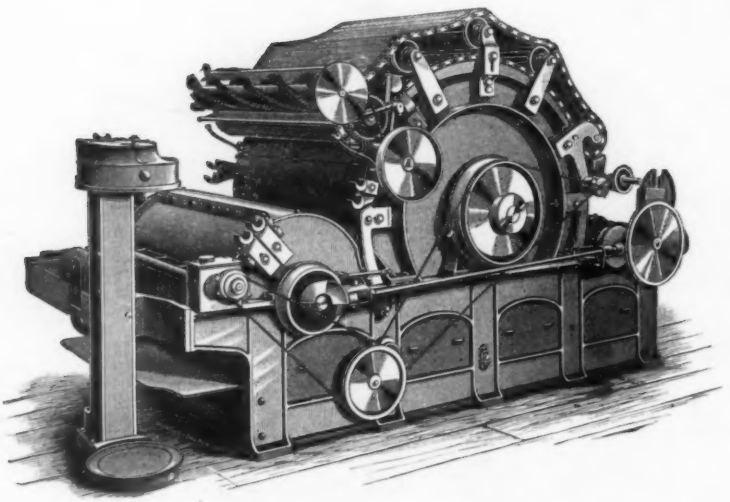
16 St. Johannvorstadt, Basel, Switzerland

Cotton Machinery

MASON MACHINE WORKS,

TAUNTON, MASS.

Southern Office,
Charlotte,
N. C.



Cards,
Combers, Railway
Heads, Drawing Frames
Spinning Frames, Mules and Looms

INCLUDING

Plain and Fancy Silk Looms

EVAN ARTHUR LEIGH

232 Summer Street (opposite the South Station), Boston, Mass.

SOLE AGENT

IN THE UNITED STATES AND CANADA FOR

Platt Bros. & Co., Ltd.

BY FAR THE LARGEST MAKERS IN THE WORLD OF

Cotton, Woolen and Worsted Machinery

Platt's Patent Opening and Picking Machinery.
Platt's Cotton Comber will comb from 7-8" stock to Sea Islands.
Platt's Special Machinery for Making Cotton Waste into Yarns.
Platt's Special Machinery for Making French Worsted Yarns.
Platt's Woolen and Worsted Carding Engines, Special Designs.
Platt's Cotton, Cotton Waste, Woolen and Worsted Mules.

MATHER & PLATT, LTD.

Dyeing and Finishing Machinery.
Archbutt-Deeley System for purifying and softening water.

TEXTILE MACHINERY ASSOCIATION, LTD.

Flax, Hemp and Jute Machinery.

GEORGE HODGSON, LTD.

Looms for Worsteds, etc.

THE PATENT AUTOMATIC FEEDING MACH. CO., LTD.

Patent Feeding Machines for wool, cotton, flax, fur and fibrous material.

JOSEPH SYKES BROS.,
Card Clothing for Cotton.

JAMES CRITCHLEY & SON'S,
Card Clothing for Woolen and Worsted.

DRONSFIELD BROS'.

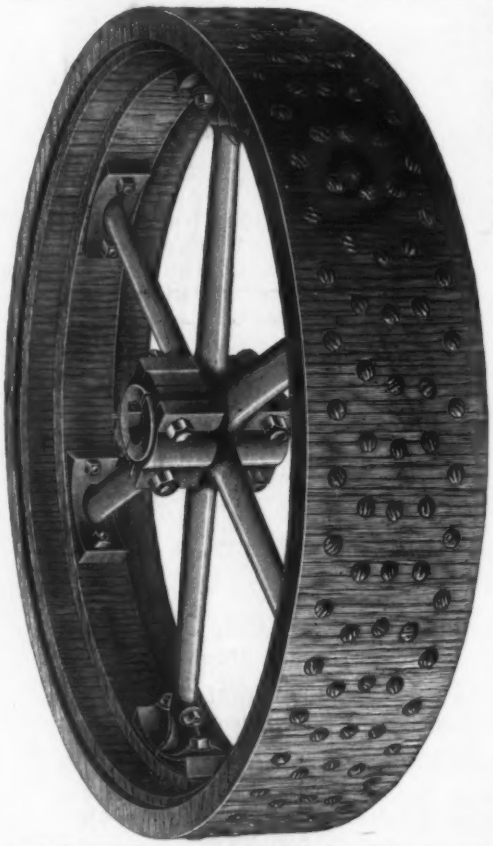
Grinding Machinery and Emery Filleting. The Best French and English Combing and Rubbing Aprons. Harding's Pins and Circles. Varey's Fallers, etc.

CORK INSERT PULLEYS

(PATENTED)

Dynamo or High-Speed Fibre Faced Cork Insert Pulley.

Eliminate belt slip. Transmit 50 to 100% additional power. Permit slacker belts, preventing friction losses and belt wear. Are not affected by water, oil or atmospheric conditions. Are practically indestructible.



Cork Insert Wood Rim Pulley Stirling Mills, Lowell, Mass., installed May 1st, 1901, still in service without repairs.

Why don't you try one?

The last quarterly report of a well known corporation shows the rate at which it is equipping its pulleys with CORK INSERTS.

Dear Sirs:—

Replying to your letter of the 14th the following is a list of pulleys fitted with Cork Inserts during January, February and March, 1908:

2 pull.	25¾	in. x 11	in.	2 pull.	49½	in. x 18	in.
1 "	17½	" x 10	"	1 "	80	" x 24	"
1 "	33¾	" x 14	"	1 "	49	" x 20	"
1 "	76½	" x 27	"	1 "	49½	" x 20	"
2 "	50	" x 9	"	1 "	49½	" x 16	"
1 "	23¾	" x 16	"	1 "	49	" x 16	"
1 "	18	" x 14	"	2 "	49½	" x 14	"
1 "	59½	" x 30	"	2 "	49	" x 26	"
1 "	47½	" x 32	"	4 "	50	" x 8	"
1 "	76	" x 25¼	"	2 "	42	" x 12	"
2 "	60	" x 30	"	1 "	17	" x 10	"
1 "	78½	" x 18	"	2 "	25	" x 18	"

For prices and particulars apply to

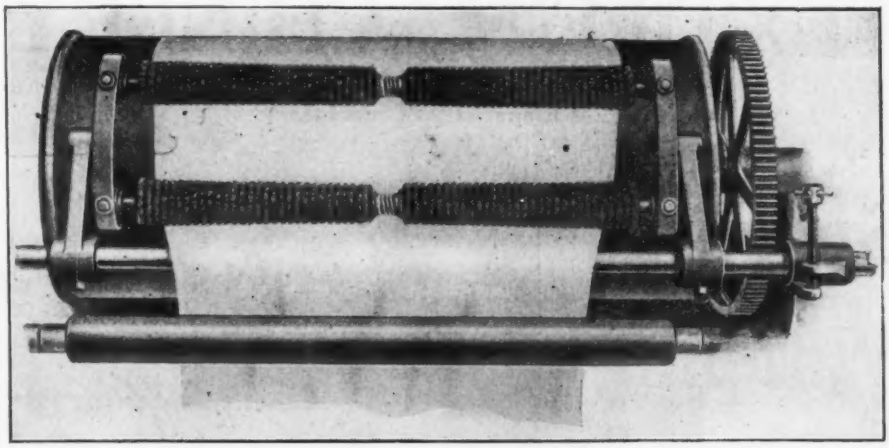
National Brake & Clutch Co.

16 State Street, BOSTON, MASS.

New Bristle Cloth Stretcher

(PATENTED)

For Cotton Cloths, Printed Goods, Pure and Soft Finish Goods, Lace Curtains, Surgical Gauze, Cheese Cloths, Canton Flannels, Napped Goods, Drills, Shirtings, Sheetings, Woolens, Silks, Shoe Duck, Burlaps, Carpets, Etc., Etc.



Features Will stretch any and all classes of fabrics in the easiest, simplest and most satisfactory manner without disturbing the finish, damaging the warp, bending the weft or distressing the fabric in any way.

No dirt, grease or oil; no complications in adjusting; no threading up; in fact every objectionable feature is eliminated in this new idea for stretching fabrics.

With this machine we defy even comparison with anything yet created for a similar purpose.

The truth of these claims has been demonstrated by two years regular work on all classes of goods in leading mills and finishing establishments in this country and abroad.

Costs nothing to try it. Sold on approval.

American Finishing Machinery Co.

45 Milk Street **BOSTON, MASS.**

ESTABLISHED 1865

Jacob K. Altemus

Office: 2824 North 4th St., Philadelphia, Pa.

MANUFACTURER OF

TEXTILE MACHINERY

Makes a specialty of machinery for

Spooling
Warping
Beaming
Winding

No other concern in the United States can excel us on our product and for Winding stunts we are able to take care of all that come along.

We know how to build and also know how to operate every machine we construct, to get the best results at least cost. This is an important factor in meeting every condition.

Our new machine for Rewinding Yarn onto Shuttle Bobbins puts on from 20 to 300 per cent more yarn than before

JAMES HUNTER MACHINE CO.

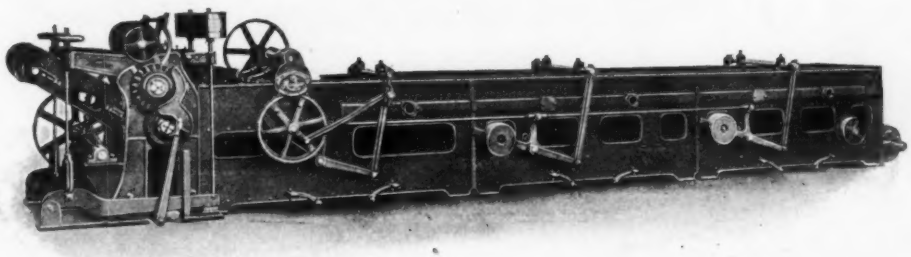
NORTH ADAMS, MASS., U. S. A.

Wool Washers. *Bulletin 54*

The Hunter

MODEL D

WOOL WASHER



"ASK ANY USER"

Bulletin 54 describes it

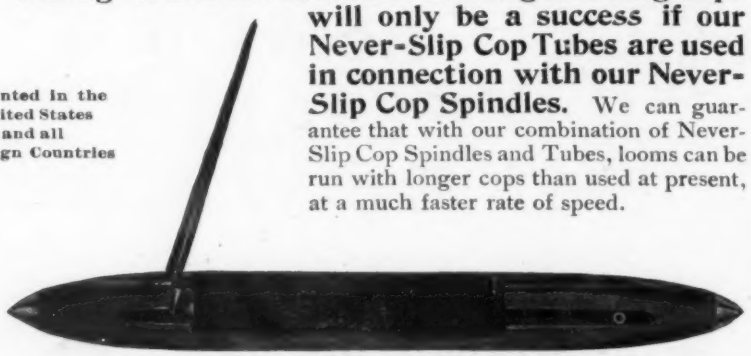
Never-Slip
Cop Spindles and Tubes

Never-Slip Cop Tube

Patent applied for.

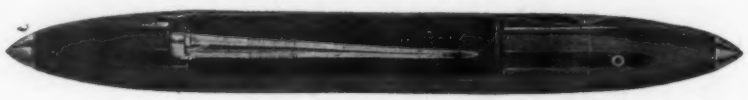
Filling-Waste is reduced to nothing and long Cops will only be a success if our Never-Slip Cop Tubes are used in connection with our Never-Slip Cop Spindles. We can guarantee that with our combination of Never-Slip Cop Spindles and Tubes, looms can be run with longer cops than used at present, at a much faster rate of speed.

Patented in the United States and all Foreign Countries



Shuttle with Spindle Raised

U. S. Patents: 778851, Jan 3, 1905; 790611, May 23, 1905; other patents pending



Shuttle with Spindle Lowered

U. S. Patents: 778851, Jan. 3, 1905; 790611, May 23, 1905; other patents pending

American Textile Specialty Machinery Co.

MANUFACTURERS OF

Shuttles and Shuttle Irons for all Textile Purposes.

New York Office, 363-373 Rider Ave.

670 Eddy St., Providence, R. I.

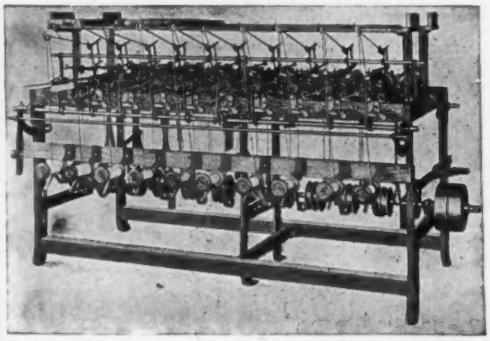
OSWALD LEVER CO.

(Formerly LEVER & GRUNDY.)

Lehigh Ave. and Mascher Sts., PHILADELPHIA, PA.

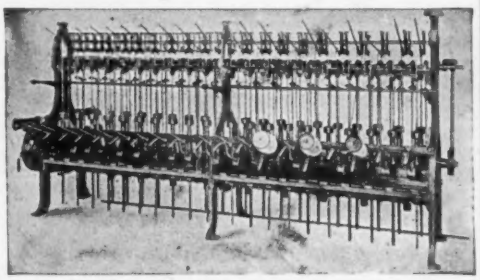
MANUFACTURERS OF TEXTILE MACHINERY.

SOLE MAKERS OF OUR PATENTED SPECIALTIES IN THE UNITED STATES.

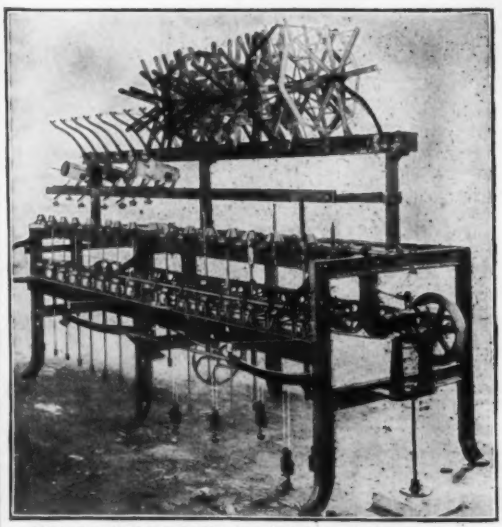


This Machine may be arranged to wind from skeins, spools, cones, or any kind of spinning bobbins. Most suitable machine for cotton or woolen blankets.

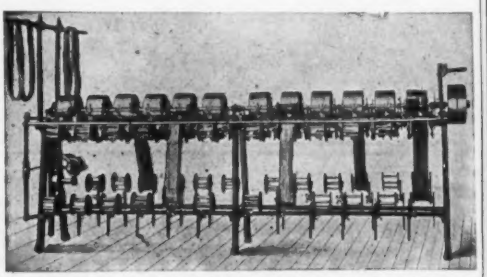
Conical and Parallel Tube Winding Machines; Warping Machines and Creels; Brass Bobbin Winding and other Machinery for lace mills; Chenille Cutting Machines, Sectional Warping Mill, Beaming Machines, etc; Cop Winding Machines for butts to weave from outside; Filling Bobbin or Quill Winding Machines; Vertical Spindle Spooling Machine for silk, fine cotton, wool and worsted; Variable Speed Bobbin Machines for large bobbins used in knitting mills; Dresser Spooling Machines; Reeling Machines.



Vertical Spindle Gear Driven Winder, as used by all manufacturers of heavy duck, jute, cotton, bagging and carpets.

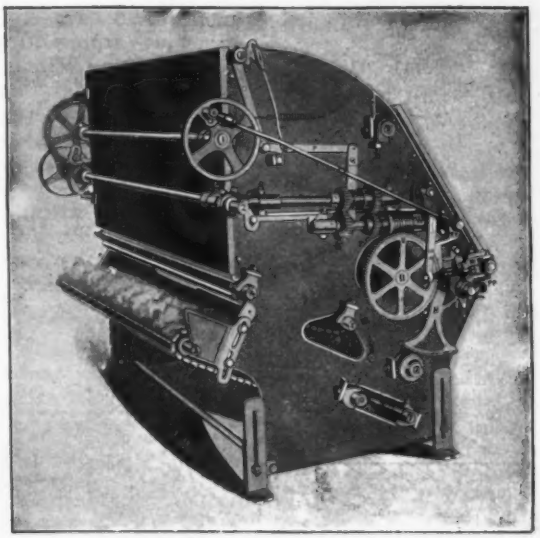


High Speed Cross Quiller to wind from skeins, spools or mule cops on two quills or paper tubes. It is built to run from 1800 to 2400 revolutions.



Pressure Drum Spooling Machine. This machine is adapted for spooling any kind of yarn, whether from mule cops or skeins.

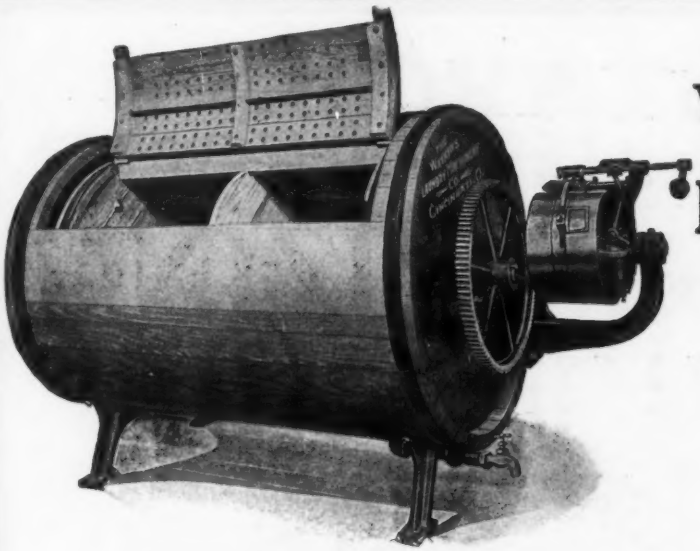
THE FISHER PATENT CARD FEED



Write Us For List of Mills Where Machines Are Used.

Woonsocket Machine and Press Company

WOONSOCKET, R. I.



Washing Machines

for

Textile and Hosiery Mills

all styles and sizes.

No matter what your needs may be, we can supply you from our line.
Address our nearest office.

Hydro Extractors

all styles

Under-Driven Extractors

Over-Driven Extractors

Motor-Driven Extractors

The American Laundry Machinery Mfg Co

Western Division
78-80 Franklin St.
Chicago

Eastern Division
132-138 W. 27th St.
New York

Southern Division
Station H
Cincinnati

STARCH.

Increased efficiency in

WARP SIZING

with LESS COST by using

Adhesive Value:

One pound of "C. P. SPECIAL" contains a sizing value of from one to one and a half pounds of any other starch.

"C. P. SPECIAL" requires no heavying or stocking up after standing.

Sizing Qualities:

"C. P. SPECIAL" dries without sticking on slasher cylinders.

"C. P. SPECIAL" penetrates yarn thoroughly.

"C. P. SPECIAL" increases tensile strength of yarn from 5–10 percent.

"C. P. SPECIAL" boils quickly and produces good, smooth size.

Weaving:

Warps sized with "C. P. SPECIAL" draw in and weave to entire satisfaction.

"C. P. SPECIAL" will not dust off under your looms.

Demonstration:

We are ready to demonstrate in your mill—free of cost—just what "C. P. SPECIAL" will do.

100 lbs. "C. P. SPECIAL" will be sent on request to any responsible Cotton Manufacturer for demonstration purposes.

Corn Products Refining Co., New York, N. Y.

TAPES, BRAIDS AND RIBBONS

for the Mill and Manufacturing Trade

WICK NARROW FABRIC CO.
PRODUCERS OF SPECIALTIES
726-728 Market Street, Philadelphia
Address Department Z

1000 Gallons of Soft, Pure Water

20 Barrels for Two Cents

for 2c.

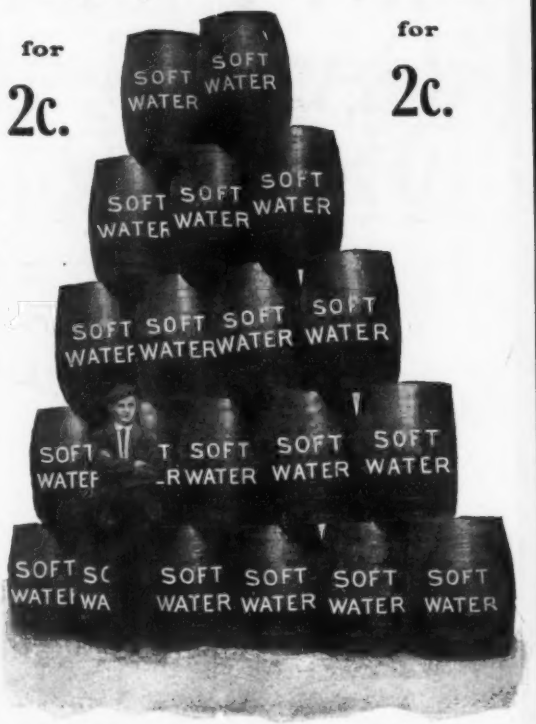
for 2c.

That is the average cost of making hard water soft with the

Dodge Automatic

"EUREKA"

Water Softener and Purifier.



For the price of a postage stamp you secure 1000 gallons of a water that will produce

Level Dyeing.

The wool is *clean* because it has been scoured and washed in water that is free from impurities that adhere to the wool, consequently the coloring matter can penetrate and affix itself in *every* portion of *every* fibre, and no *spots* or *streaks* mar the appearance of the finished piece.

Consider the SOAP SAVING—it amounts to the difference between the soap required to produce "suds" on your *hard* water as against practically a RAIN water.

It is not necessary to "doctor" our treated water.

We can CLARIFY your turbid river or lake water. By using the treated water in your boilers, as well as in the manufacturing processes, you prevent scale and all of its attendant evils and expenses.

A postal card request will bring you our interesting book "No. 414" which tells all about the "Eureka" System.

Dodge Manufacturing Co., Mishawaka, Ind.

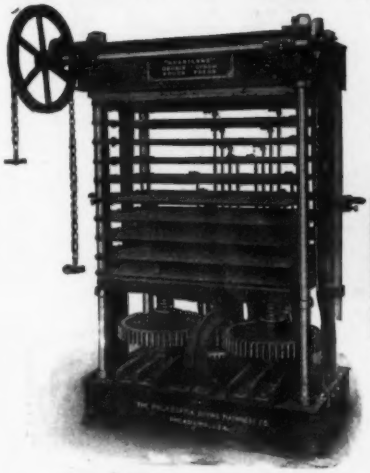
P. S.—These are some of our textile mill customers:—

South Bend (Ind.) Woolen Co.
Cooper, Wells & Co., St. Joseph, Mich.
Burson Knitting Co., Rockford, Ill.
Kalamazoo Knitting Co., Milwaukee, Wis.
Des Moines, (Ia.) Hosiery Mills.
Ipava (Ill.) Woolen Mills.
Clinton (Mich.) Woolen Mfg. Co.
Wayne Knitting Mills, Fort Wayne, Ind.

"HURRICANE" DRYERS AND FANS

For Wool, Cotton Stock, Yarn, Stockings, Underwear, Etc.

BELT DRIVEN AND MOTOR DRIVEN



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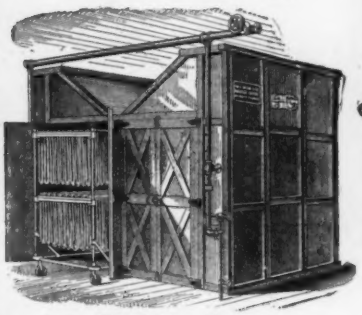

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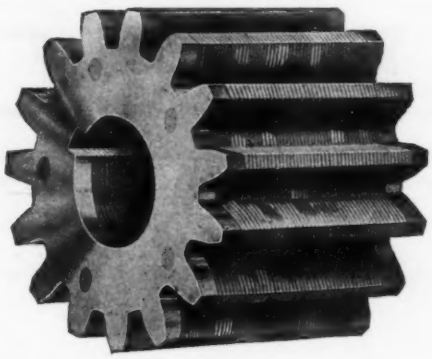

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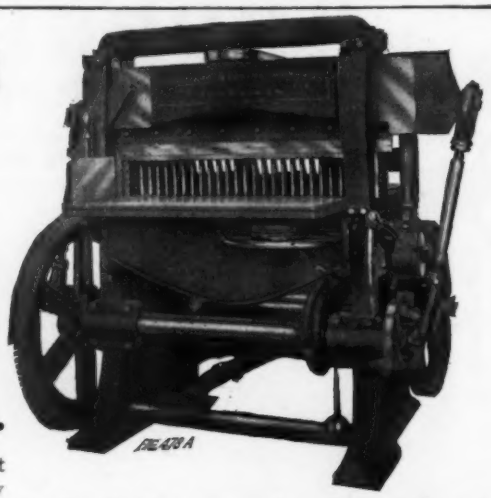

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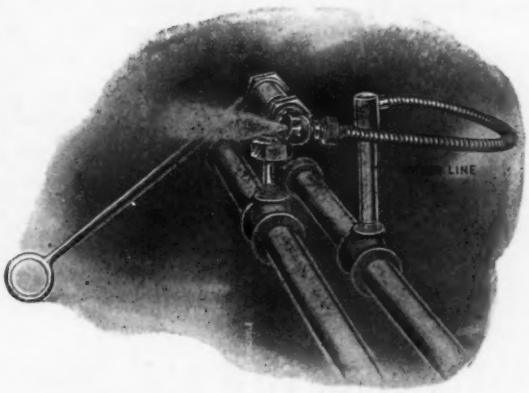

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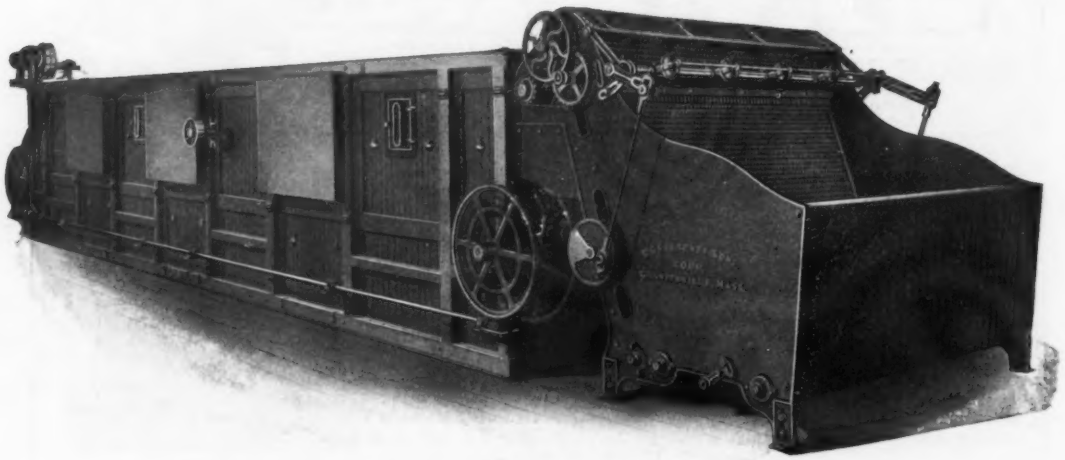

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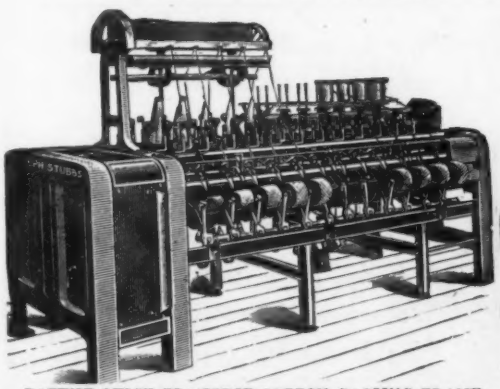

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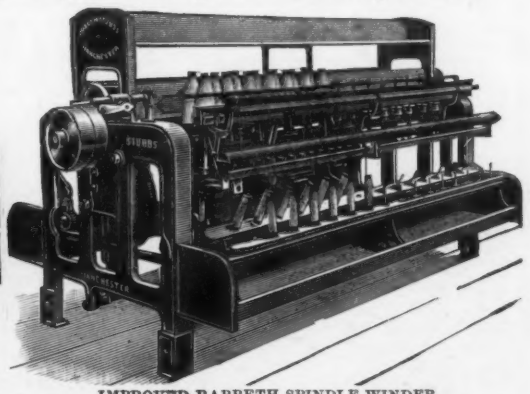

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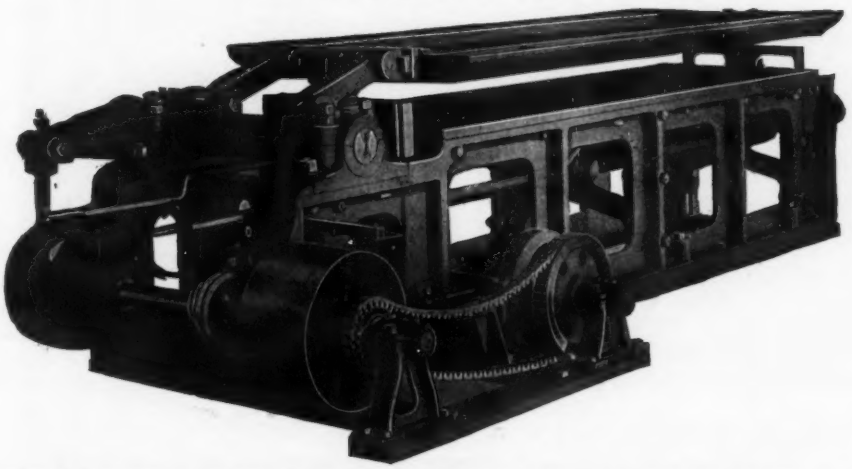

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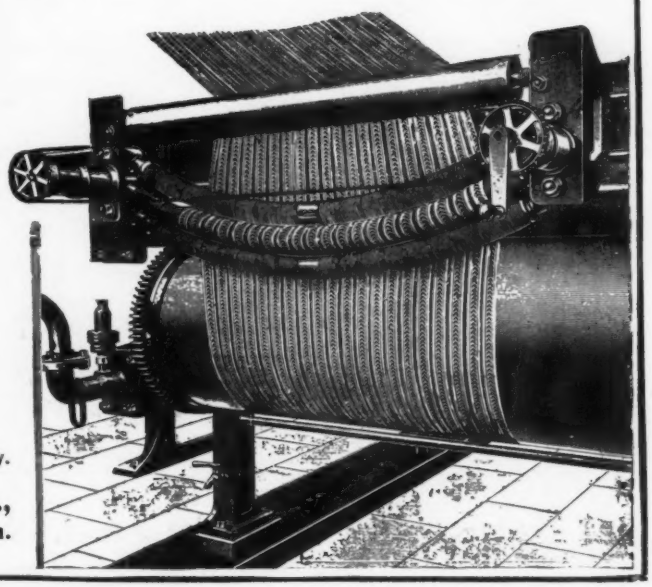

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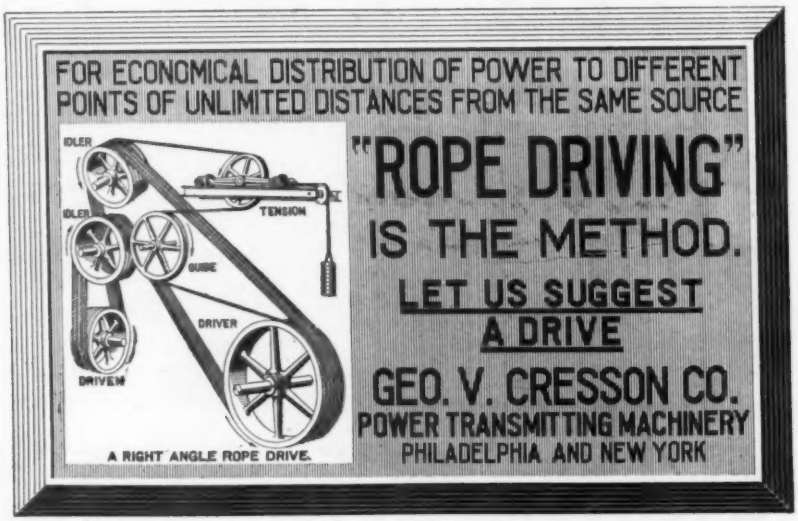

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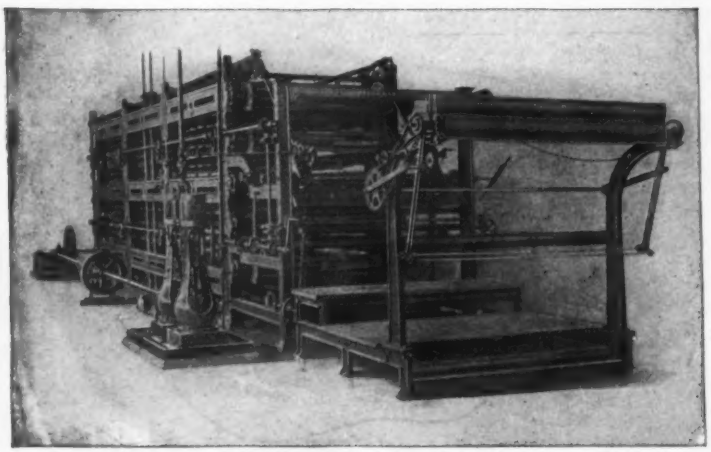

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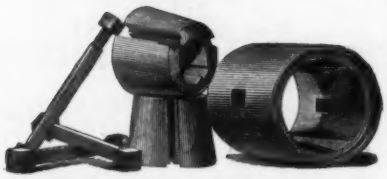

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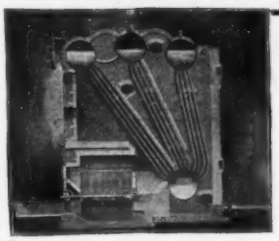

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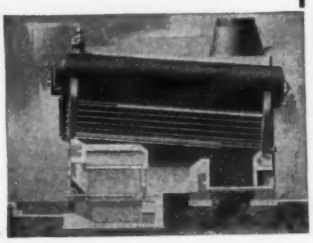

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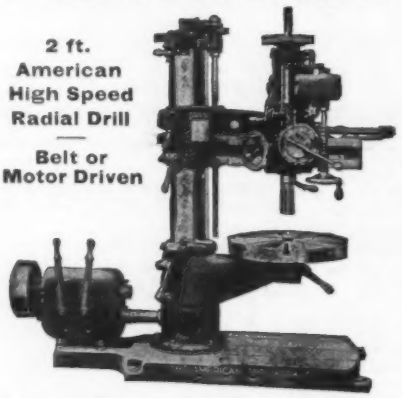

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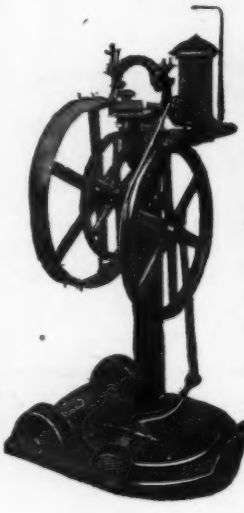

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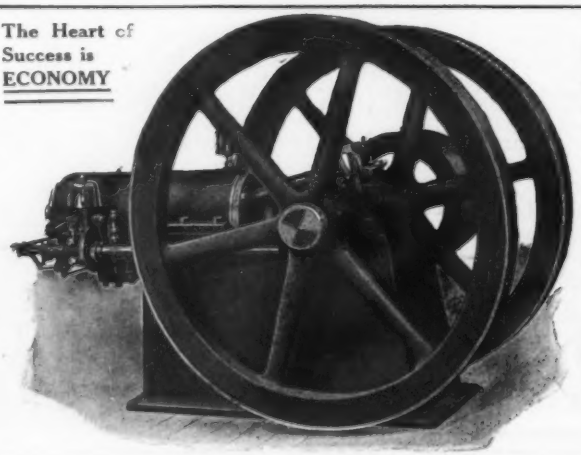

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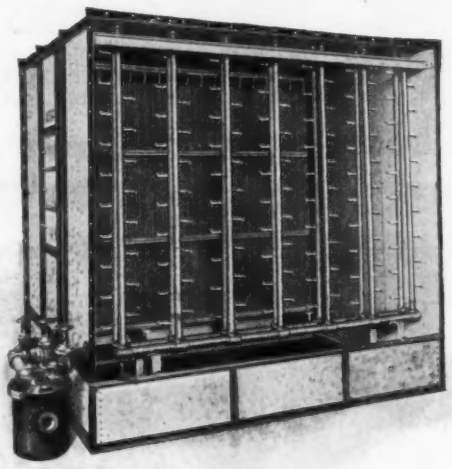

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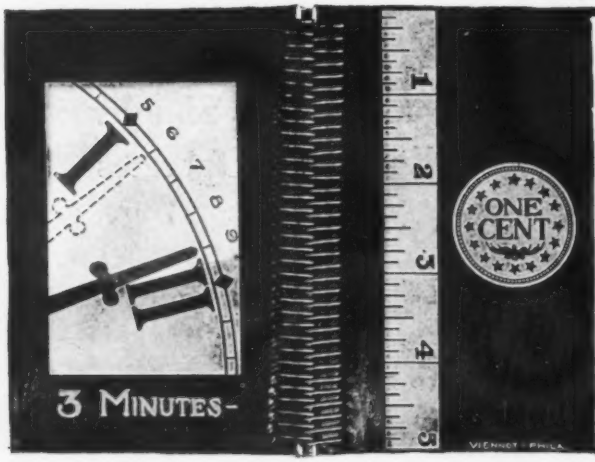

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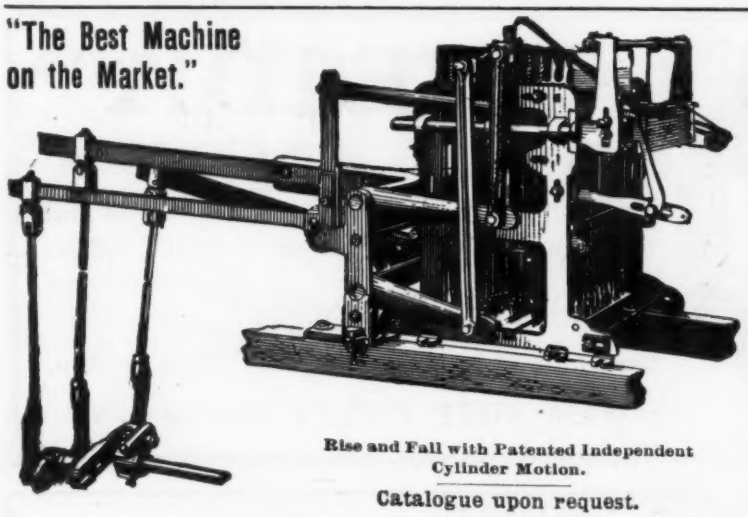

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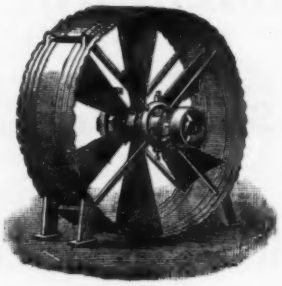

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Excel in **strength, durability, lightness** and **efficiency**. Will answer any textile requirement. Made in largest range of sizes of any steel pulley in the world.

Diam. 6 to 104 in. Face 3 to 40 in. Bore 1 to 8 in.

ONEIDA STEEL PULLEY CO., Oneida, N. Y.

General Electric Company

Continuous Daylight for Your Mills

is obtainable by the use of

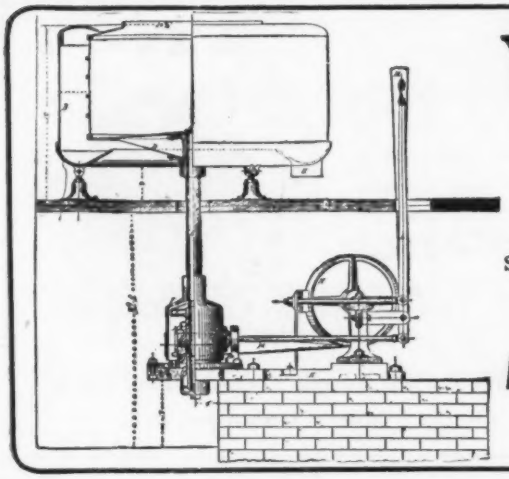
General Electric Arc Lamps with Concentric Diffusers

This system is best because it is the only mill lighting system that gives a perfectly distributed light that is **Similar to Daylight.**

Mill Power Office, 84 State St, Boston
Principal Office: Schenectady, N. Y.
Sales Offices in all large cities.

NEW YORK OFFICE, 30 Church Street.
BALTIMORE OFFICE, Continental Trust Bldg.
PHILADELPHIA OFFICE, Witherspoon Bldg.
ATLANTA OFFICE, Empire Building.

1623



Weston Hydro Extractors.

Special Machines for Acid Work.

SHAFTING, PULLEYS,
FRICTION CLUTCHES, Etc.

American Tool and Machine Co.

Incorporated 1864. Founded 1845.

109 Beach Street, Boston, Mass.

WILLIAM BODDEN & SON, Limited

The "BODDEN" Flyer

For QUALITY OF FINISH
For QUANTITY of PRODUCTION
HAS STOOD THE TEST OF YEARS

Sole Agents for U. S. A.

Thomas Mayor & Son, Olney Street, **Providence, R. I.**

The Lane Canvas Basket made PERFORATED

is a most desirable Steaming or Ageing Basket.

Made either with or without wooden shoes and in either square, round or oblong shape to fit any steam box.

The materials used are first class in every way and not easily affected by steam or moisture.

A most durable and efficient Basket.

See our Descriptive Catalogue and Price List No. 37

MANUFACTURED ONLY BY

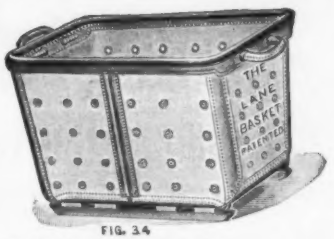


FIG. 34

Sold direct or through principal Supply Houses.

W. T. LANE & Brother, Office & Works **Poughkeepsie, N. Y.**

Olive Oil for Wool

(Breton Brand)

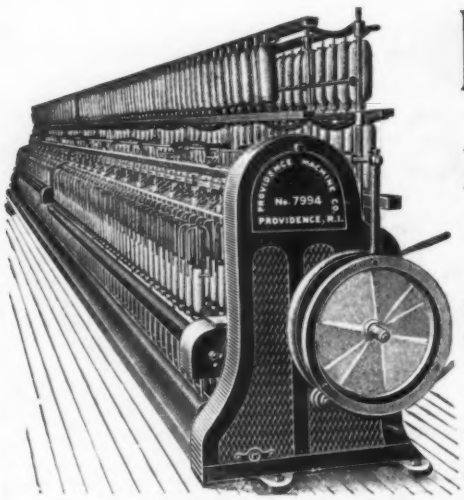
This oil is manufactured by our own process which eliminates the non-soluble part and gives an oil far superior to regular olive oils. Works better on Cards and Combs. Spins as fine as any. Yields readily to soap and frees itself with much greater ease than other oils.

BRETON OIL FOR WOOL TRADE MARK

Trial barrel sent on approval—subject to test.

BORNE, SCRYMSER COMPANY, 80 South Street, New York

Boston Fall River Philadelphia Works, Claremont, N. J.



Providence Machine Co.

Manufacturers of

Improved Cotton Roving Frames

Improved Worsted Roving Frames

564 Eddy St., - - PROVIDENCE, R. I.

Crabbing, Steam Finishing, Opening and Folding, Tacking, Sewing, Squeezing Machines

BIRCH TREE

BIRCH BROTHERS, SOMERVILLE, MASS.

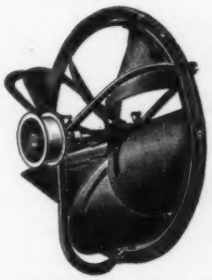
ALBERT BIRCH, TEXTILE MECHANICIAN

BIRCH TREE

Bleaching and Napping Machinery

THE BERRY WAY
OF
MOVING STEAM
CLEARS THE DYE HOUSE.
THINK AND ACT NOW.

This is our Berry Wheel, the most effective agent for drying or for eliminating steam and other impurities in the atmosphere.



A. HUN BERRY,
23 West First Street
BOSTON.

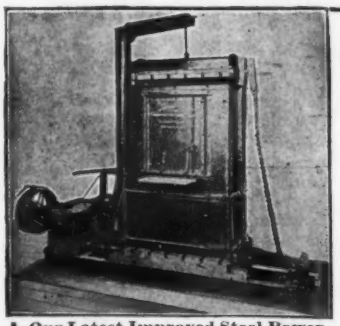
A. H. HOWARD, Pres. ESTABLISHED 1866. HERBERT MIDGLEY, Supt.

A practical test will convince you we can furnish the

Best COTTON or WOOL CARD CLOTHING Made.

HOWARD BROS. MFG. CO.

144 and 146 Vine Street, Worcester, Mass.



Our Latest Improved Steel Power Press with New Steel Link Chains

Minnich Baling Press

for all kinds of products.

Must turn out more bales with less labor and power than any press in the market.

Send for circular.

Minnich Machine Works,

Lancaster Co. Landisville, Pa.

An Essential to the Weave Room

WE ARE HEADQUARTERS

S. A. FELTON & SON CO. MANCHESTER, N.H.

The Loom Duster

We make a specialty of

Compressing Spoolers

and

Royal Worsted Spoolers

which make the only perfectly wound jack-spools for the weaving mills

MR. MANUFACTURER:

The best yarns on poorly wound jack-spools will produce "seconds."

Our spoolers with their positive, quick, cross-wind traverse; automatic stop-motions; balance wheels; variable speeds; leather covered tension rolls and "conditioning devices" do produce a dresser spool that IS absolutely perfect in every particular, with *all* the threads of the *same tension*.

No holes; no double ends; no over-lapped ends; also they "split-out perfectly, consequently you dress your warps quicker and cheaper, at the same time getting a better weaving warp, clearer patterns, evener looking yarns, and NO "seconds."

Ask the spinning mills why they do not furnish such jack-spools. They will if you insist.

We will sell our spoolers to anyone, anywhere. Machines shipped on trial. Write for blue-prints.

Warp Compressor Company, Worcester, Mass.

This Shultz Sable Belt

is made by a special tanning process that preserves the original strength and pliability of the rawhide while giving it a smooth kid-like surface. That is the reason it clings to the pulleys without slipping.

SABLE BELTING will transmit from 25% to 33% more power and give longer service than ordinary oak-tanned belting.

Ask for our Belt Book "No. 6." Get a Shultz Sable Belt for 60 days free trial.

Shultz Belting Company

St. Louis, Mo.

New York Boston Philadelphia

No. 29

LUMBER

AT

½ PRICE

USE

AVENARIUS CARBOLINEUM

Wood Preserving Paint on

Floors, Sills, Joists, Dye Tanks and Vats

and other woodwork exposed to steam, acids or variations of temperature.

BULLETIN 29 UPON REQUEST.

CARBOLINEUM WOOD PRESERVING CO.

347 West Broadway, New York

The Best That Money Can Buy

SPINNING RINGS.
TWISTER RINGS.
RING HOLDERS.
TRAVELER CUPS.
SILK RINGS.
TRAVELER CLEANERS.

Correspondence Solicited.

WHITINSVILLE SPINNING RING CO.,
WHITINSVILLE, MASS., U. S. A.

MORE THAN

100

STYLES
Leather
Tail Pickers

We can furnish promptly any one of more than 100 different styles of leather tail pickers, and we can furnish them in different grades at varying prices which depend upon their quality.

LOOM HARNESSES — PICKER LOOPS — LUG STRAPS

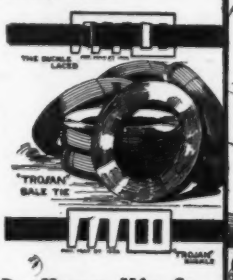
Garland Mfg. Co.
Saco, Maine
Formerly Loom Picker Co.
Biddeford, Maine
TRADE MARK

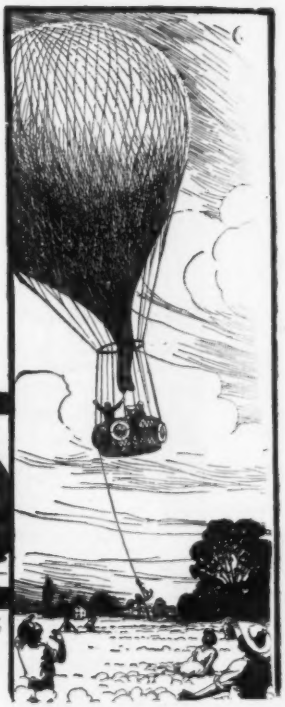
If you are using rope for baling you are helping to pay the gas bill to keep rope prices balloon high.

Rope is up—*Trojan Bale Tie* and *Band* is down.

Trojan Band is made plain or galvanized in coils from 2000 to 3000 feet without a break. Widths ½, ⅝, ¾ and 1 inch.

With the present high prices of rope Trojan Band and Buckle is a money saver.





De Haven Mfg. Co.
Brooklyn, N. Y.
Chicago, Ill.

NEW ENGLAND BUTT COMPANY,
304 PEARL ST., PROVIDENCE, R. I.

BRAIDING MACHINERY

ALL STYLES AND KINDS FOR FLAT AND ROUND BRAIDS.

SOLID SASH AND CURTAIN CORDS,

SHOE AND CORSET LACES, BANDING

AND ALL BRAIDED FABRICS.

Don't Make the Public Guess at Your Trade-Mark

Kaumagraph Stamps are guaranteed to give uniform, distinct impressions on *any* class of fabric.

Write for samples.

THE KAUMAGRAPH COMPANY
156 Fifth Avenue, New York

Competition is keen in the textile field

The manufacturer, to be successful, must take advantage of every modern method that will increase the quantity and improve the quality of his product without increasing its cost. A sure means towards this end, and one easily applied, is Individual Electric Motor Drive. It does not mean remodelling your plant; a wire can be strung anywhere.

Ask Westinghouse Electric

Westinghouse Electric & Mfg. Co.

Atlanta Charlotte Philadelphia
Boston New York and other large cities

Philadelphia Textile School

TWENTY-FOURTH YEAR

Oldest in America
Most Complete in the World

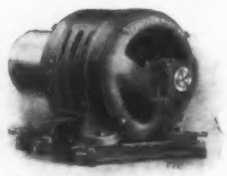
Endorsed by the Leading Educators and Manufacturers

Cotton, Wool, Worsted and Silk
Instruction given in Designing, Weaving, Carding, Spinning, Chemistry, Dyeing and Finishing

Special Courses in Textile Chemistry and Dyeing

For illustrated Year Book and other information, address

E. W. France, Director,
Broad and Pine Streets . . . . . Philadelphia



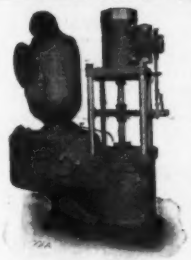
15 to 200 H. P.

We are thoroughly familiar with the electric requirements of textile mills.
This is one reason why **C-W** induction motors make good in this field.
Crocker-Wheeler Company, Ampere, N. J.

DEAN BROS. STEAM PUMP WORKS

INDIANAPOLIS, IND.

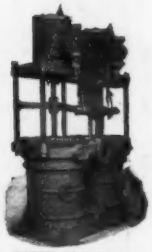
DUPLEX PUMPS, SIMPLE PUMPS
ATLANTIC BOILER FEEDERS
JET AND SURFACE **CONDENSERS** ELECTRIC PUMPS BELTED PUMPS, Etc.



VERTICAL AIR PUMP AND JET CONDENSER

DUPLEX DURABLE PUMP

SIMPLE PUMP



TWIN AIR PUMP AND CONDENSER

New Bedford Textile School

Day and Evening Instruction in

Picking,
Carding,
Combing,
Spinning,
Warp Preparation,
Weaving,
Designing,
Knitting,
Chemistry
and Dyeing.

CATALOGUE ON APPLICATION.

Address

New Bedford Textile School
New Bedford, Mass.

MAURICE GANDY FOUNDER OF THE GENUINE RED STITCHED COTTON DUCK BELTING.
GENUINE
GANDY
Candy Red Stitched Cotton Duck Belts
are a textile product themselves, and any textile man who examines one will appreciate their enormous strength and the uniformity of their construction.
After he uses them he'll tell you about their straight true running—splendid tractive qualities, and low cost—one-third that of leather. They represent the best value ever offered in belts at any price, and it's a good business to at least read our free booklet—"Experiences with Gandy." Send for it—it tells some facts you need to know.
(Another money saver—Gandy Belt Dressing.)
THE GANDY BELTING CO.
BALTIMORE, MD.

Diamond N Coverings

We do not keep diamond N insulation—we sell it. Six floors brim full. We also make a specialty of applying our products.

Norristown Magnesia & Asbestos Co.
23-24 Lewis Wharf, Boston, Mass.

Established 1870

John Heathcote & Son

Providence, R. I.

Builders of Improved

Cloth Tentering and Drying Machinery

for WOOLENS, WORSTEDS, FELTS, etc.

Built Upright or Horizontal with Low Down Feed

Ventilating Fans a Specialty

Send for Catalogue

LOWELL TEXTILE SCHOOL

Fits for the best positions in all branches of the textile industry both commercial and manufacturing.

Complete courses in Cotton Manufacture, Woolen and Worsted Manufacture, Designing, Chemistry and Dyeing and Textile Engineering. All courses include thorough training in Mechanics, Advanced Mathematics, Mechanical Drawing, Chemistry, Decorative Art, Weaving, etc.

Complete equipment for applied instruction.

Fall term begins Sept. 29, 1908

For Catalogue Address

CHAS. H. EAMES, S. B., Principal,
Lowell, Mass.

WATER TOWERS

IRON OR STEEL

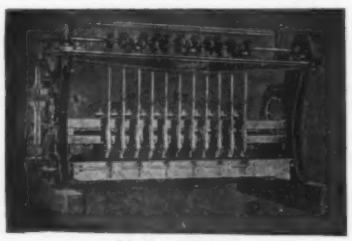
for Fire Protection and Domestic Service.

Built in all sizes.

Write for catalogue.

Plans and prices cheerfully given.

Tippett & Wood, Phillipsburg, New Jersey



50-IN. MACHINE

L. F. FALES

MANUFACTURER AND BUILDER OF

SEWING MACHINES

FOR ALL PURPOSES WHERE A NUMBER OF ROWS OF SEAMS ARE REQUIRED

BUILT WITH ANY REQUIRED NUMBER OF NEEDLES

DESIGNER OF SPECIAL MACHINERY

WALPOLE, MASS. U. S. A.

PAPER SLITTING MACHINES

400
NEW MILLS

10,000

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by the

Official American Textile Directory

For 1908-09

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Over 13,000 Different Concerns Listed

TRAVELERS' EDITION

Flexible Covers, Light Paper

$2.00

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$3.00

LORD & NAGLE CO.

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Renold Silent Chain

High-Speed Power Transmission:

POSITIVE
QUIET

PROVED EFFICIENCY RATED OVER 98%

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ST. LOUIS, Missouri Trust Bldg.
BOSTON, 84 State Street
BUFFALO, 601 Ellicott Square
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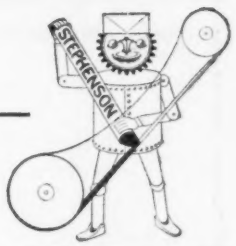

Samples Speak Louder Than Words

Columbus, Ind., Aug. 11, 1908.

Stephenson Mfg. Co.,
Albany, N. Y.,

Gentlemen:—Some time ago you sent us a Sample of Stick Dressing for Leather Belts, which we have used, and find same all you claim for it, so we ask that you ship us by return express at least one dozen Sticks per Sample for Leather Belt.

Trusting you to make shipment at once, we are,

Yours very truly,
Fehring Carriage Co.

May we send YOU a sample?
RED Label Brand for Leather belts;
GREEN Label for Rubber or Canvas.
No **one** kind of Dressing is good for **all** belts—you know that.

Of Dealers everywhere, or

STEPHENSON MFG. CO.
ALBANY, N. Y.

Your protection against substitution is **The Man with the Cog-Wheel Face** on each Pound Stick.

To the Manufacturer who Invites Success!

THE HENDERSON CARD

will increase your carding and improve the quality of your yarn with less waste, greater strength and increased production over any other system.

James H. Whittle Co. 150 Harlow St., Worcester, Mass.

Successors to the Cleveland Machine Works

Owners and manufacturers of the celebrated **Henderson Card** for Wool, Worsted, Cotton, Waste, Flax and Asbestos. Also manufacturers of

All Kinds of Woolen Machinery.

Mr. Manufacturer

Are you interested in the question of economic belt transmission, the saving of power, and a better output of your plant with **clean** belts? A practical demonstration of my

ACME PULLEY COVERING

will prove the above. Let me have a personal interview.

Chas. E. A. Olsen, 150 Nassau St., New York

"BARLOW!"

The right name for the right goods. When you think of

Loom Pickers

think of "Barlow"—always. J. W. B. Trade Mark

JOHN W. BARLOW CO., Spicket Mill, Lawrence, Mass.

Rubber Covered Rolls for all Mechanical Purposes

Special Densities for each purpose giving results not obtainable elsewhere.

Rubber Covered Slasher Rolls

Also Power Wringers of all sizes and descriptions.

Old Rolls Recovered. New Rolls Complete.

The American Wringer Co., 99 Chambers Street, New York City.

Factory, Woonsocket, R. I.

JACOB WALDER, Sole Manufacturer in the United States of **Brass and Steel** **MAILS**

Paterson, N. J. **Liberal Discount to Dealers.**

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T. C. Entwistle Company

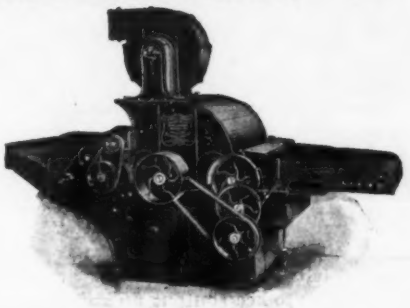
LOWELL, MASS.

FRANK B. KENNEY, Manager

Southern Agent:

STUART W. CRAMER, Charlotte, N. C.

CURTIS & MARBLE MCH. CO., WORCESTER, MASS.



BURR PICKER.

Wool Burring and Picking Machinery.

Cloth Finishing Machinery.

Brockway & Meckensturm,

MOODUS, CONN.,

MANUFACTURERS OF IMPROVED

TWISTING MACHINERY

OF ALL KINDS

For Laying Line, Twine and Cord of all sizes.

Nichols' Patent Whirligig Twister for Hard Laid Twine.

Brockway & Meckensturm's Improved Geared Step Twister for Hard Laid Twine.

Warp Yarn Twisters, Sail Twine Twisters.

Prices and particulars on application.

The Metallic Drawing Roll Co.

INDIAN ORCHARD, MASS.

MANUFACTURERS OF

Metallic Rolls

Especially adapted for Cotton Mills. 25 to 33 per cent more Production Guaranteed. Weight Reduced 33 to 50 per cent. No Leather Covering Bill.

WRITE FOR PARTICULARS.

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Somerville, Mass.

"Coronation"

Piece End Sewing Machines

on American stand sent on trial most anywhere.

Send for Circular.

Bleaching, Dyeing and Finishing Machinery.

Vulcan Fibre Roving Can.

BODY—Vulcanized Fibre. SIDE SEAM—Riveted with patented Clinched Rivets. RINGS—Tinned Steel, Brazed Joints, Curled Edges. BOTTOM—IXXX. Tin Star Corrugation; Fastened without the use of nails or screws, will not crack, warp or shrink and cannot come out. FINISH—Coated inside and out with moisture proof coating, handsome and smooth. WEIGHT—About one half pound per inch diameter. SIZE—All cans to any exact size, perfectly round any true. DURABILITY—Superior to any other can.

Also Manufacturers of

HILL'S IXXX TIN AND GALVANIZED IRON DYE HOUSE CAN.

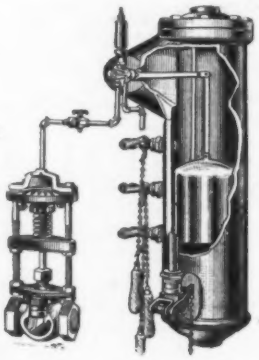
James Hill Manufacturing Co., Providence, R. I.

The

Berry

Safety Automatic Feed Water

Regulator

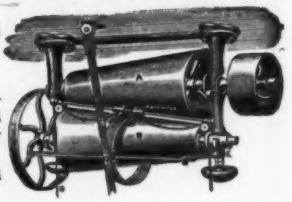


New England Office:
103 Bedford St.,
Boston, Mass.

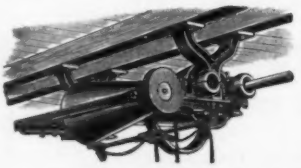
Berry Engineering Co., Chester, Pa.

Variable Speed Countershafts

The Evans Friction Cone Pulleys



will drive your machines at any desired speed from 1 to 6 by simply pulling a cord.
They are guaranteed to do your work.



We'll furnish them for either floor or hanging use.
Over Ten Thousand Sets in Operation in this Country and Europe.
Send for Catalogue.

EVANS FRICTION CONE COMPANY
G. Frank Evans. - Newton Center, Mass.

E. E. BURNHAM, Pres. L. E. BARNES, Treas.

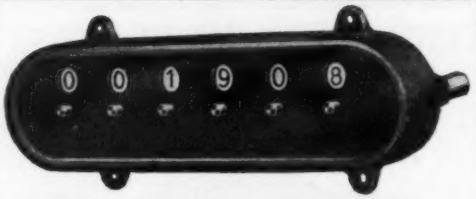
The E. E. Burnham Co.
252 Lowell St., Lawrence, Mass.

Manufacturers of

Leather Belting
Cotton and Worsted Roll Coverers

General Mill Supplies

85% Pure Magnesia Steam Pipe and Boiler Covering



A Measuring Machine

that will register the output of each machine.

A glance tells how the machines are running —enables you to keep output up and cost down.

Used by representative Cotton Mills and Bleacheries. Write for Catalog No. 18.

C. J. Root Co., Bristol, Conn.

Eureka Fire Hose

THE BEST FIRE HOSE MADE.

(Trade Mark)

For use in
Cotton Mills, Woolen Mills and Factories.

Seamless Woven and Rubber lined EUREKA COTTON HOSE has no equal. Send for circular and testimonials.

Awarded Gold Medal at the St. Louis Exposition, 1904.

EUREKA FIRE HOSE MFG. CO.
13 Barclay St., New York, N. Y.

1866 1908

41st Annual Statement

January 1, 1908

Capital, $1,000,000.00
Surplus, 1,006,868.06
Reserves, 2,053,326.74
Assets, 4,060,194.80

The HARTFORD was the Pioneer Company in the field of Steam Boiler Insurance, and it is the only company which makes a specialty of and does exclusively a steam boiler inspection and insurance business.

The HARTFORD is the only company whose entire talent and energies are applied to the study of steam, to the scientific construction and installation of boilers, and to their periodical inspection by expert mechanics.

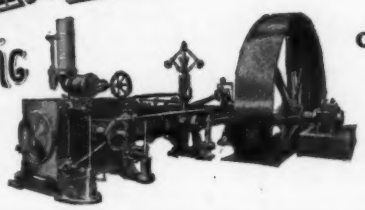
The HARTFORD is the only company whose entire assets and resources are held exclusively for the protection of steam users, and the payment of losses occasioned by the explosion of steam boilers and for no other hazard whatsoever.

The HARTFORD is now doing nearly nine-tenth of the Inspection and Insurance of Steam Boilers in the New England States, and nearly two-thirds of the entire amount done throughout the United States.

L. B. Brainerd, President and Treasurer.
F. B. Allen, Vice-President.
C. S. Blake, Secretary.
L. F. Middlebrook, Assistant Secretary.

Hartford, Conn.

THE IMPROVED FISHKILL CORLISS ENGINE
BUILT BY THE FISHKILL LANDING MACHINE CO.,
FISHKILL ON HUDSON N.Y.



For all power purposes
where high economy and
close regulation is required.

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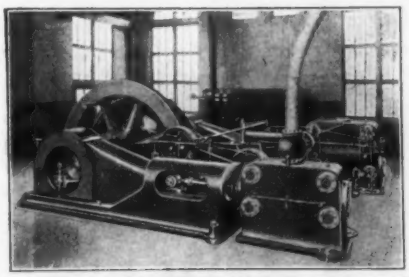

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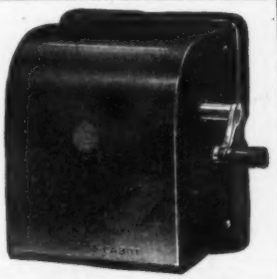

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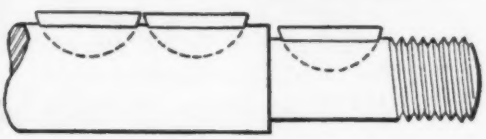

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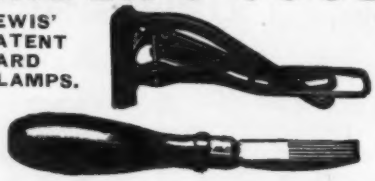
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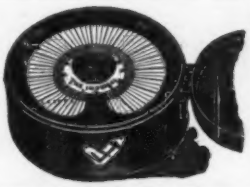

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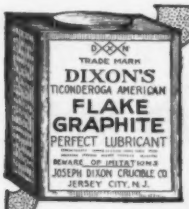

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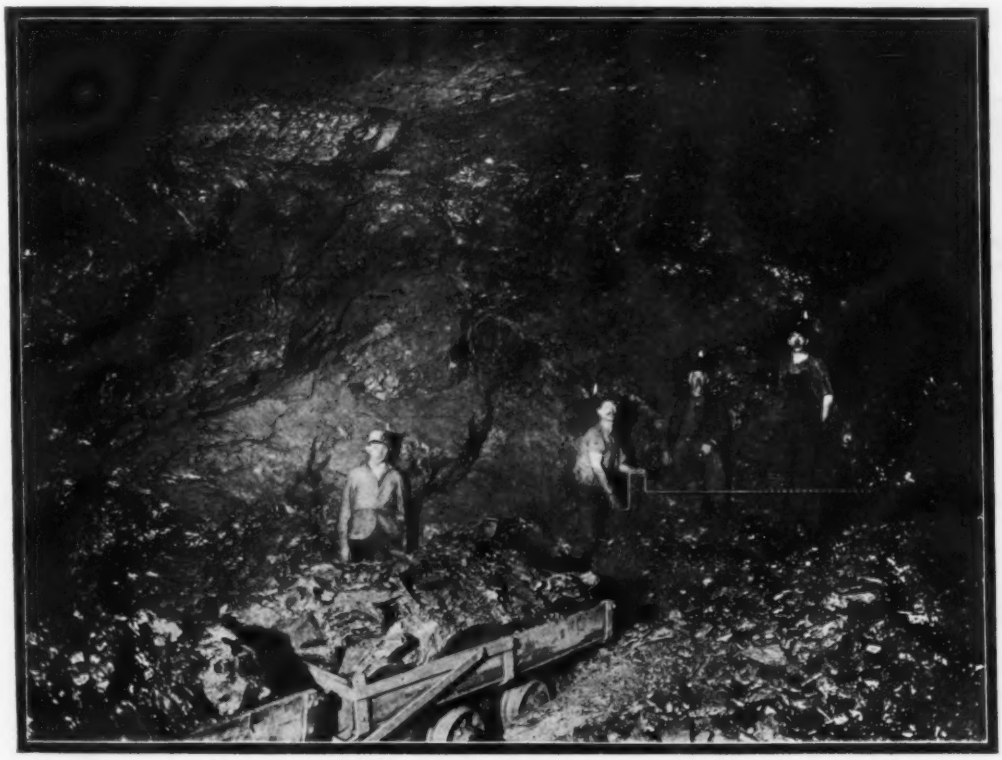

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Publication and Editorial Office

144 Congress Street, Boston.

119 South 4th Street, Philadelphia. 123 Liberty Street, New York.
463 East 42nd Street, Chicago.

Entered at the Boston Post Office as Second Class Mail Matter.

Subscription Rates.

Textile World Record in United States and Mexico	$2.00 per year
To **Canada**, on account of extra postage	$2.50 per year
To other **Foreign Countries** (postage paid)	$3.00 per year
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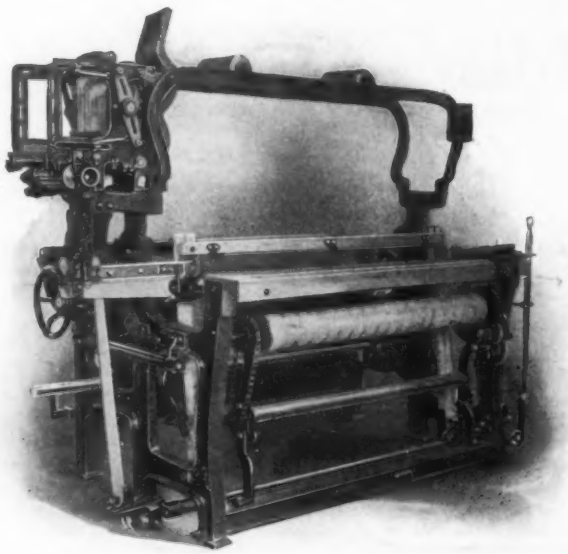

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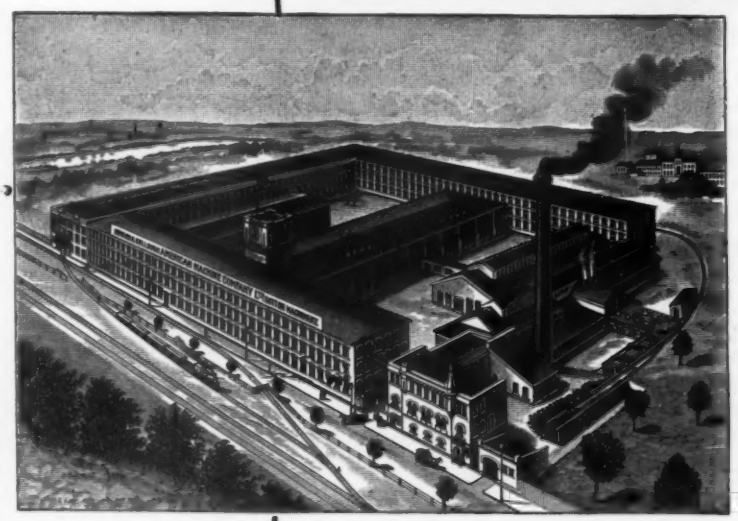

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COMBINING

The Textile World and Textile Record.

VOL. 35 (NEW SERIES.) September, 1908 No. 6

Monthly Comment.

Strange Bedfellows.

As if to bolster up a waning cause a Free Trade Congress was held in London last month, the first gathering of its kind on record. Delegates came from a number of foreign countries, including the United States. We give below some extracts from the remarks of the speakers at this gathering. Among the Americans were two members of the National Association of Manufacturers, H. E. Miles and A. B. Farquhar, the former speaking in his capacity of Chairman of the Tariff Committee of that organization. They were supported in representing (?) America by Edwin D. Mead of Boston, Prof. Sumner of Yale, William Lloyd Garrison of Lexington, Franklin Pierce, a New York lawyer, John Bigelow of Boston, Louis F. Post of cereal fame, and a Mr. Eldrick. We give extracts from the remarks by the Americans, who out-Heroded Herod in their denunciation of the American protective tariff.

In connection with these speeches we would like to know whether the National Association of Manufacturers approves of opinions expressed by its members at the First Free Trade Congress. Is the "National" under its present management preparing to take "a long firm step in the direction of free trade at the earliest practicable moment"? If so, it is clearly out of place for its president, J. W. Van Cleave, to profess devotion to protection to American industries, as he has recently done in his attempt to debate the tariff question with William J. Bryan. The time is no longer coming, it has arrived when those who are not in favor of protection to American industries should be classed as against it:

Herbert E. Miles, America: (Mr. Miles was introduced and spoke as Chairman of the Tariff Committee of the National Association of Manufacturers of the United States.) He denounced the existing tariff as an "abomination," as illustrated in the operations of the trusts and their effects on individual manufacturers. It was a tariff of abominations. If English economists would help with any suggestions to make the (American) tariff an honest tariff according to American professions in the matter, they would help greatly to lower that tariff in important particulars.

A. B. Farquhar, America: The number of thoughtful and cautious men of business (in the United States) who would make a long, firm step in the direction of free trade at the earliest practicable moment is already considerable. The National Association of Manufacturers, one of the largest and most representative business bodies in the world, is a case in point.

H. W. Shepherd, America: In the United States there is not a prominent professor in any of the universities who is not in favor of free trade. On the shelves of the Boston library there are books in the proportion of 100 to 1 in favor of free trade, and yet America is protectionist today. As sure as Christianity is true so free trade would become the principle of the world.

Edwin D. Mead, America: Anti-slavery, free trade and all the great reform movements go together. In America they were about sick of protection.

William Lloyd Garrison, America (by letter): I

would urge concentration on the iniquity of protection rather than upon its inexpediency. I hoped to be present at the gathering simply to arraign protection as a device for enthroning privilege, corrupting government, debasing public morals, cultivating the war spirit and undermining democracy. I should have expressed my surprise that England should for a moment entertain the readmission of the evil. As well invite small-pox and leprosy to "broaden the basis of taxation, stimulate trade and elevate the laborer."

Prof. Sumner, America: The men in control of the protectionist system in the United States foresee the end of it and have announced a revision of the tariff in the near future.

Franklin Pierce, America: Protection meant that the government made a law whereby the manufacturer increased the price of certain goods for his own profit, and the consumer had to pay double the value of the article. The tariff problem in the United States has proved the most stupendous instrument of corruption ever conceived by the ingenuity of man.

Louis Post, America: The people of the United States were free traders by their Constitution internally, but they left a flaw in the Constitution by allowing a tariff on imports.

John Bigelow, America: Is the time very distant when the protectionists (in the United States) will be ready to risk another civil war and with even more disastrous results?

Mr. Eldrick, America: Protection is the breeder of industrial discord.

The Fall River Sliding Scale.

As a result of negotiations between the mill owners and operatives at Fall River, the operation of the sliding scale has been modified in accordance with the following agreement:

It is agreed by the Cotton Manufacturers' Association of Fall River and the Fall River Mule Spinners' Association, Fall River Weavers' Progressive Association, Fall River Loom Fixers' Association, Card Room Protective Association of Fall River and the Slashers' Union of Fall River that wages in Fall River, so far as mills represented by the Manufacturers' Association and the operatives who are members of the above organizations are concerned, shall be determined in the following manner, which shall be binding upon the mills represented by the Manufacturers' Association and upon the members of the various operatives' associations until changed or terminated, as hereafter provided:

"1. 21.78 cents per cut shall be the recognized standard price for a margin of 95 points, based on the cost of eight pounds of middling upland cotton and the average selling price of 45 yards of 28-inch 64 by 64 print cloth and 33.11 yards of 38 1/2-inch 64 by 64 cloth. Quotations from the New York Journal of Commerce and Commercial Bulletin shall be considered authoritative.

"2. The standard of wages shall be fixed every six month, beginning the last Monday in May and November of each year, and no oftener, and shall be based on the average margin as fixed above, for the previous six months. Prices for the weaving shall be as follows:

With a margin of—		With a margin of—	
115 points	23.96	95 points	21.23
112½ "	23.69	87½ "	20.96
110 "	23.42	85 "	20.69
107½ "	23.14	82½ "	20.18
105 "	22.87	80 "	19.66
102½ "	22.59	77½ "	19.17
100 "	22.32	75 "	18.68
97½ "	22.05	72½ "	18.00

"But there shall be no change in prices on either the ascending or descending scale unless the margin has reached a point named in the above schedule. Eighteen cents per cut shall be the minimum rate paid for weaving, 23.96 cents shall be the maximum. Wages in all departments other than weaving shall be adjusted on the price of weaving as above determined.

"3. No change shall be made in this agreement and it shall remain in force until the Cotton Manufacturers' Association on the one side or the members of the various organizations on the other side give notice of proposed changes at least three months prior to the last Monday of May and November in each year.

"4. Reductions or advances shall not take effect until two weeks after the end of the period on which wages shall be based for the next six months, except the present wage schedule shall remain in force one week after the expiration of the present marginal period."

Shoddy Clothing.

The following editorial appears in the August issue of "Industrial Canada," a journal published by the Canadian Manufacturers' Association:

One of the most unfortunate features of the flooding of the Canadian market with the products of British woolen mills is that some of the cheaper lines of goods and shoddies brought into Canada for the manufacture of cheap clothing are a real danger to the health of the wearers, as well as of those who are employed to make them up. It is, perhaps, not generally known, but it is none the less a fact, that the shoddy imported into Canada is made out of all manner of filthy material. Old rags and rubbish from the lowest and most disease-infected slums of the great European cities, including even the sweepings of floors, cobwebs swept from musty walls and all manner of garbage, enter into the composition of the shoddy that comes into Canada, and is put into suits for people who have to purchase cheap clothing. Suits that can be bought at retail for four or five dollars, and pants at less than a dollar, cannot, it stands to reason, be manufactured out of material of any real value. The fact is, foreign shoddy can justly be described as garbage made into a pulp and then rolled out to look like cloth that can be palmed off on the unfortunate to whom cheapness is a consideration.

It is little short of a crime to allow such stuff to come into Canada at all. It is no advantage to the workingman to purchase a suit for a few dollars that cannot and does not wear. A shower of rain will almost literally melt such a suit off a man's back, and if he subjects it to the least strain it is bound to tear beyond mending. It is no kindness to allow such goods to be put in his way. Before the preferential tariff went into force, the quality of the cheaper lines of clothing sold in Canada was greatly superior to what it is today. Then the workingman paid a dollar or two more for his clothing, but he got value for his money and he was not exposed to the danger of contracting some filthy or incurable disease. The cloth for cheap clothing was then manufactured in Canada, and the material that went into the making of it was both sanitary and substantial. Now, however, it is impossible for the Canadian manufacturer to turn out a substantial shoddy in competition with the stuff that is allowed to come into the country under the preference.

If the Government would only investigate this question and learn of some of the dangers to which they are exposing the people of this country who are compelled to wear cheap clothing, we feel satisfied that they would take measures to put a stop to the importation of such trash, even to the extent of prohibiting it as they would a plague.

"Industrial Canada" is mistaken. All germs of disease that may lurk in the raw material of wool goods are removed during the processes of manufacturing. Wool sorters contract the disease known as anthrax from certain kinds of imported wool because the wool is handled before having been subjected to any of the purifying processes of manufacturing. In like manner disease may be spread by handling infected rags. The first processes to which the raw material, whether wool or rags, is subjected, are sufficient to render it harmless as a disease spreader. Take for example the shoddy goods imported into Canada. The rags as a rule are first carbonized to remove any vegetable material. This necessitates soaking in acid or exposure to acid fumes and then drying at a high temperature, operations that certainly destroy all germs of disease. In many cases the preliminary processes include dyeing in a boiling liquor. From this it is clear that any danger of infection is removed as soon as the rags enter the mill and that none of the disease germs in the raw stock can by any chance be found in the finished product. If wool cloth proves injurious to the health of the wearer, it is because it was made so during or after the process of manufacturing and this possibility is as great in the case of all wool goods as of shoddy fabrics.

"Industrial Canada" should not allow its commendable desire to make Canada self-supporting in respect to textile goods carry it too far. An unwarranted prejudice against British wool goods can easily be created by raising this cry of "Disease," but the cause of protection needs no such false support. Protection rests on the everlasting basis of justice and is one of the most efficient factors in the uplifting of humanity. Canada supplies an illustration of this. That country is now being flooded with cheap British woolens while Canadian mills are idle, because labor is cheaper in Yorkshire than in America. A dollar will purchase only half as much labor in Canada as in England. In other words, the same amount of labor can be bought for about half as much money in England as in Canada. As a result of this inequality wool goods are made in England and exported to Canada at prices that make Canadian competition impossible. The English goods are cheaper. Yes, in money, but they have cost just as much human labor per yard as they would have cost if made in Canada.

Compared with this overwhelming difference between money cost and actual labor cost the miserable 23 1/3 per cent. Canadian duty on British wool goods sinks out of sight. For all practical purposes free trade in low-priced wool goods exists between the United Kingdom and Canada. The English manufacturer is able to undersell the Canadian mills because of the low wages by which labor is oppressed in Yorkshire. One of only three things can happen: The Canadian woolen workers can meet English competition by sinking to the English level under free trade. The Canadian woolen industry can disappear, the operatives seeking other occupations. Or Canada can impose adequate protective duties on imports of wool goods and thus make wool manufacturing possible and maintain the American standard of living in the Dominion. Which will it be?

Lancashire and the Cotton Supply.

But why should we intervene?—Manchester Guardian.

If the lesson taught forty-six years ago has been forgotten or is not conclusive as to the importance of cooperation by Lancashire in the development of cotton growing in the American cotton belt, no verbal statement of reasons is likely to be of any avail now. Lancashire in that case will have to be left to supply the world with proof that every generation needs its own course in the school of experience in the cotton trade.

The Names of Dyestuffs.

A reform of the nomenclature in the artificial dyestuff industry has recently received considerable attention in the textile journals of Europe. The discussion was started by Emile Blondel in the Bulletin de la Societe Industrielle de Rouen. He advocates the adoption of a system by which each dyestuff will have only one name. This reform is vigorously opposed by Lefevre in the Revue Generale des Matieres Colorantes, who calls attention to the fact that in the early days of the artificial dyestuff industry the method of naming the products was much simpler than at the present time. Then all the color works marketed a product under the same name; for example, Methyl Violet, Fuchsin, Brilliant Green, Methyl Blue, Eosine, Erythrosine, Phloxine, Ponceau, Orange I, II, III, Alizarine and its derivatives. Now, however, the same or similar products are known by an indefinite number of names varying with the different manufacturers.

This diversity causes serious trouble to the dyer, printer and dealer. It takes, says Lefevre, at least ten years for one entering the dyestuff trade to become even fairly well acquainted with the properties of the products of different dyestuff manufacturers; whether, for example, a color from color maker X is identical with that from Y and what the difference is if any exists. At present no change for the better is in sight. The tendency is toward consolidation of artificial dyestuff works, and even if that occurs a unification of the nomenclature is by no means certain.

At the present time if a patent on a dyestuff expires and the manufacture of the product is undertaken by another firm it may easily happen that the color will become in a few years better known under a new name than under the old one. Under such conditions it is not for the interests of the new maker to rechristen the product in order to promote uniformity. Everyone who has had experience in the export trade knows how much importance the foreign consumer places on the names of dyestuffs, and will agree that on commercial grounds alone a unification of names of dyestuffs is impossible.

The entire system of nomenclature, says Lefevre, has been evolved by the development of the different color works. Only by the disappearance of a color firm can the name be obliterated. Each firm has its own series of colors. Thus among substantive dyes we have the Diamine, Congo, Benzo, Chloratine, Dianil, Zambesi, Oxamine, Diphenyl, Naphthamine, Alkali, Renal, Toluylene, Chlorazol, Azidine, etc.; in the sulphur group we have Sulphur, Immedial, Pyrol, Katigen, Pyrogene, Eclipse, Thiogene, Kryogene, Thional, Thionol, Thion, Sulphurol, Thiophor, etc. Thus, according to Lefevre, the extent of the confusion which makes a reform more desirable makes that reform impossible.

Another objection raised by Lefevre to unification is the necessity for each color firm to meet the special requirements of its customers by blending a number of dyes to produce a particular shade. If such mixtures are abandoned in an attempt to make the commercial names correspond with the fundamental dyestuffs, what, asks Lefevre, is to happen in the dyehouse where the dyer is forced to make his own blends? The alizarines, for example, are composed of alizarine, anthra- and flavo-purpurine. It would mean a long step backward if the turkey red dyer or printer should be forced to obtain the desired compound by mixing the component parts in the exact proportions.

Then there are the numerous shades of substantive browns. The dyers of Crimmit-

schau, M. Gladbach, Warnsdorf, Bradford, Lodz and the United States demand from the color manufacturers many different shades of brown having clearly defined degrees of fastness. This makes it necessary for the dye firms to blend their dyes to meet the varied requirements. If the mixing is attempted in the dyehouse, a slight variation of the proportions might easily make a wide difference in the results obtained.

Lefevre reaches the conclusion that Blondel's desire for a uniform system of dyestuff nomenclature is impossible. Whether this conclusion is sound or not, it is certain that Lefevre, in calling attention to the obstacles, has demonstrated beyond question the great need for improvement. Even if Blondel's desire cannot be realized in its entirety the question still remains, Cannot present conditions be improved? Have the manufacturers of dyestuffs tried to simplify the nomenclature? Or have they for commercial purposes encouraged the development of the present confusion of names? An incident in our own experience tends to support an affirmative answer to the last question. In a certain New England mill, whose identity need not be made known here, a certain dealer, who may also remain nameless for the present, desired to introduce a blue dyestuff, which had been approved by the superintendent, but to which the treasurer objected. The treasurer's bump of modesty not being excessive, the dealer and superintendent decided to appeal to his vanity by designating the blue they wanted with the initials of the treasurer's name. The scheme worked like a charm and for many years that mill was a large consumer of blue V B F, while the beauty and fastness of the resulting shade appealed as strongly to the treasurer as to the superintendent or dealer. The letters V B F are used here because they are not the ones used for the above mentioned blue, although for the information of the curious we will state that the real and assumed letters bear a uniform relation as regards position in the alphabet. We mention this incident because it shows that all the diversity of dyestuff nomenclature has not arisen in the factories where the products are manufactured. It also shows that, even if Blondel's desire for a uniform system cannot be realized, it is possible for the manufacturers of dyestuffs to improve existing conditions.

A Cotton Conference at Manchester.

A conference of West Indian cotton planters and representatives of the manufacturing and commercial branches of the English cotton trade was held last month at Manchester. In addition to the regular sessions of the conference there were excursions to various cotton mills and a luncheon at which there occurred a further exchange of views between the visitors and their hosts. The presiding officer at the conference, Sir Alfred Jones, called attention to the progress made thus far in cotton growing in the West Indies:

> In 1902 under the auspices of the British Cotton Growing Association £9,000 worth of cotton was produced; this year—taking the period from Michaelmas, 1907, to Midsummer, 1908—already £215,000 worth has been produced.

He then called attention to the perils of a time when America should use all the cotton she produced:

> There was no question of the wisdom of Lancashire in preparing in this way for the future by encouraging the growing of cotton in British dominions. America had a great and growing population, and sooner or later would want all the cotton Americans could produce.

Prompted possibly by the fact that the West Indies are geographically American, Sir Alfred reminded his hearers that the work they had met to promote was designed to benefit America (the United States) as well as England:

> The extension of cotton growing on British soil would really have a beneficial result for America herself, because if Amercia wanted more cotton she was more likely to get her wants supplied if England had already what England wanted.

Sir Alfred continued in the same vein at the luncheon to the planters, and gave this account of British philanthropy with a moneyback accompaniment, which was vociferously cheered:

> In founding this Association he thought the people of this country were wise, for in cultivating cotton within the British dominions they were benefiting not only themselves but their fellow-subjects in far-off lands. The Association was founded on philanthropy. He thought he might

claim to have been one of the original philanthropists. "But there is wisdom sometimes in philanthropy," Sir Alfred added. "I started with £25,000, and I am glad to tell you, gentlemen, I have got it back again."

He wound up with a declaration of the real sentiment that leads Lancashire to prize British grown cotton more highly than other varieties:

I think we ought as Britishers to lend our money to the British Empire. If you lend it to other countries you may get it back, but if you have it in your own Empire you have it under your own flag, and the flag counts for a good deal in this world.

Colonial cotton growing was urged by J. A. Hutton, of the British Cotton Growing Association, with arguments, which, although less sentimental, certainly bore a more businesslike aspect:

The scheme for cotton growing with which the Association was identified was a business proposition; when all the sentiment about the Empire was boiled down, it was a business proposition. The interests of the planters and of the Association were identical. "You can grow the cotton we want," Mr. Hutton continued, "but you are of no use to us unless you can grow it at such a price as will be remunerative to yourselves; you cannot go on losing money for long."

The fact that business is business even in colonial cotton growing was still further emphasized by Mr. Hutton:

They had been forced more and more to the conclusion that in the interests of Lancashire and of the cotton growers it was absolutely essential that the Association should continue on permanent lines and on a business basis. If we are to obtain the large amount of money necessary for carrying on our work we must show that we are able to pay interest on whatever money we borrow.—(Applause.) We cannot continue any longer to cast bread upon a larger area of waters than we have bread for. The Council have decided, therefore, to concentrate efforts on those parts of the Empire which give prospects of the greatest success. West Africa, East Africa, and the West Indies are the fields which we look to as permanent fields.

A kindly message of good will from the party in power was conveyed to the conference by Alfred Emmott, M. P., who accompanied it with an unmistakable intimation that a free trade government was not disposed to rush to the support of colonial cotton growing with the object of supplying cheap cotton not only to English cotton manufacturers who had been making profits as high as 50 per cent. for several years, but to the manufacturers of foreign countries as well:

The members of the House of Commons were very much impressed with the great advance that had been made in the West Indies, and he was justified in saying that they wished them well. At the same time it must be apparent to them that any member of the House of Commons not interested directly with the trade would say that following on a period of extraordinary prosperity such as the last few years the cotton trade of Lancashire must cultivate self-help and not look so much to government help.

The visitors from the West Indies gave some interesting accounts of cotton growing on the islands. The first one to speak talked about prices in a truly American fashion and in a way calculated to dampen the new-born hope of Lancashire for cheap cotton grown "outside of the United States":

Dr. E. C. Gooding, of Barbadoes, sought to remove "a wrong impression as to the money to be made out of cotton." When the industry was started in the West Indies the heavy yield per acre made it possible to sell at a profit at a shilling per pound. Since then the area under cultivation had been extended, and pests and disease had made their presence felt. His own experience was that the cost of producing a crop was something like £9 or £10 per acre. Taking the average yield per acre as 130 pounds, and allowing 1s. 6d. as the price obtainable, it worked out to £9 15s. as the return. There was, therefore, practically no margin of profit.

Conrad J. Simmons, of St. Vincent, said the activities of the Cotton-growing Association had been the salvation of that island. The people were happy, and instead of having to look for the charity of the Government to meet the deficits in the Budget there had been a handsome surplus for some years past. "We pride ourselves," he said, "on the fact that we think we can grow as cheaply as the Sea Islands of America, and we intend to grow it as well as they can.—(Applause.)

A. M. Lee, of St. Kitts, said he was not a practical planter, but an owner of property. St. Kitts was unique in that it grew its cotton most cheaply as a "catch crop" by interpolating it between crops of sugar cane. Planters were thus able to get three paying crops within a period of three years —two of sugar cane and one of cotton, whereas hitherto there had been only two crops of cane. His first crop of cotton had equaled 200 pounds per acre, and it had been produced for something under £5 per acre. This success in large measure was due to the peculiarities of the island, which was nothing but a heap of volcanic ash, and required no more than a superficial scratch to get at the tilth.

A very interesting address was made at the Conference by Sir Daniel Morris, Imperial Commissioner for Agriculture for the West Indies:

Within the limits of West Indian conditions very steady progress had been made, and the fact that this year, in a period of nine months, they had exported Sea Island cotton to the value of £215,000 showed that such progress had been made that they regarded the industry now as likely to be permanent.—(Hear, hear.) In the West Indies there were a good many industries—sugar, cocoa, limes, fruit, and several others,—and they wanted a new industry which would help to improve the conditions of some of the older industries, and the cotton industry did this exactly.

In growing cotton they were able also to improve the conditions under which they grew sugar. Cotton could be utilized, especially in Barbadoes and St. Kitts, as a rotation crop for canes. The cotton industry fitted exactly into the routine of the sugar industry, and by growing cotton they could give the land an occasional rest from canes and maintain the soil in a far better condition than otherwise.

There was the case of St. Vincent, where the principal industry was arrowroot. For many years they had been growing more arrowroot than they could find a market for, but now the pressure of arrowroot on the market had been relieved, and the St. Vincent planters had grown cotton of as high a standard as was produced anywhere in the British dominions. Incidentally, cotton growing had added considerably to the general prosperity of the community.

Sir Daniel Morris spoke of the suitability of the West Indies for cotton production. They had been able to buy from the Southern States of America the best seed, and to improve upon it to such an extent that Florida planters now bought their seed from the West Indies. Of course the cotton lint had been shipped mostly to England, but one firm in Florida had purchased an estate in Barbadoes and had been shipping their lint and seed to the States. . . .

Lancashire, of course, wanted cheap cotton; and West Indian planters wanted the best prices they could get in order to make its industry remunerative, but really the question of prices was beyond their control. It was, however, within their power to get a larger yield of cotton per acre, and they must aim at getting plants that were hardy and productive and that would produce cotton of exactly the kind wanted in Lancashire.

In Antigua a few years ago it was a difficult matter to keep the people alive because of the great poverty in the island, but at the present time the cry from Antigua was that there was not enough labor, and that excellent change was a result of the extension of the cotton industry.—(Applause.) The same thing was happening in St. Vincent, and they hoped in time to cure the trouble by using labor-saving implements.

The reports of the Conference indicate that it was a decided success in promoting a better understanding between the West Indian planters and the English trade, which cannot fail to increase the productive efficiency on both sides.

The Compulsory Working of Patents.

The year of grace granted to owners of British patents to prepare for actual working of their patented processes in the United Kingdom under the Patent Act of 1907 expired on August 28. British patents that are not less than four years old may now be revoked on the ground that the patented article or process is manufactured or carried on exclusively or mainly outside of the United Kingdom.

Since the passage of the Act owners of British patents not worked in the United Kingdom have made haste to guard against the loss of their patents. In many cases (notably the manufacture of artificial dyestuffs) where the importance of the industry warranted it, factories were established on British soil for working the patented processes. Following is a list of such new plants, compiled from the English press-notices:

1. An American manufacturer of safety razors is to establish works at Sheffield employing 500 hands.

2. The Hoechst Farbwerke, German manufacturers of artificial dyestuffs, have established works at Ellesmere Port, near Chester, Eng. This plant is shown in course of construction in the accompanying illustration, it being the first factory established on British soil for the manufacture of artificial indigo.

3. The Farbenfabriken of Elberfeld Co., another of the great German dyestuff companies, is to establish works near Manchester, Eng., for the manufacture of all of its products.

4. The J. P. Bemberg Aktien Gesellschaft, of Oehde, near Barmen-Rittenhausen, Germany, is to establish branch works in England for the production of artificial silk.

5. The United Shoe Machinery Co., of Massachusetts, are to build more of their machines in England to prevent revocation of their patents. For this purpose they are enlarging their works at Leicester, England.

6. The Badische Anilin und Sodafabrik, Ludwigshafen am Rhein, Germany, is preparing to establish branch works in England.

7. The Aktiengesellschaft fuer Anilinfabrikation, of Berlin, Germany, is negotiating for a site for branch works in England.

8. The Sanatogen Food Co. is to manufacture their products by patented processes in Cornwall.

9. The Pintsch Suction Gas Plant Co. is establishing branch works in London.

10. The National Cash Register Co. is protecting their British patents by manufacturing their products in London.

11. The Linkmeyer Artificial Silk Co. has arranged to have its processes worked in England

by a branch under the name of the United Celluloid Silk Spinners, Ltd.

12. The Vereinigte Glauzstaff-Fabriken, of Elberfeld, Germany, manufacturers of artificial silk, with branches in Austria and France, have organized a British branch with a capital of $875,000. The English works are now in course of construction, this branch having been established to protect the British patents.

In addition to these firms whose business under British patents is extensive enough to warrant the establishment of branch works,

Branch Works of the Hoechst Farbwerke at Ellesmere Port, Eng. The first factory to be built on British soil for the manufacture of artificial indigo.

there are a large number of patents which have been protected by leasing the operating rights to British firms and arranging for their being worked on British soil. In the aggregate these will make an important addition to the British manufacturing industry, possibly exceeding the total of those larger individual plants operated by foreign patentees.

There has been much discussion in England of the question whether the compulsory working clause of the Act involved the principle of protection to home industries. As a matter of fact this clause marks the withdrawal of protection to foreign industries. Previous to its passage Great Britain granted a patent to foreigners which in effect prohibited the working of the process by anyone except the patentee. If, as often occurred, the latter found it more profitable to work the patent in a foreign country, the effect of the British patent was to suppress British industries. There is such a difference between a patent and a tariff on imports which is specially identified with the word "protection" in the popular mind, that it is idle to dispute over the question whether a compulsory working clause in a patent law is or is not "protection."

There is less chance for a difference of opinion when a customs tariff and a compulsory working clause in a patent law are judged by results. Compared by this standard they are identical, for each results in making a community independent of foreign sources of supply. This is the very essence of protection, and the striking results that have already followed the enactment of the new British patent law will doubtless strengthen the rapidly growing sentiment in the United Kingdom in favor of protection by a tariff on the importation of such goods as can be produced at home without a waste of energy.

Textile Mills in Chicago.

An effort is being made by the Chicago Association of Commerce to develop textile manufacturing in that city and the vicinity. The object is to diversify the industries and complete the circle of manufactories in that section of the country, which offers many advantages to manufacturers. W. H. Manss, industrial commissioner of the Chicago Association, has made a careful investigation of the question of establishing textile mills in and near that city, and informs us that Chicago capitalists are ready to invest in such enterprises if responsible and experienced manufacturers can be secured to invest and assume the management. It is estimated that 25,000,000 yards of woolen cloth alone is annually used at Chicago in

the manufacture of clothing, and that a number of jobbers and manufacturers of clothing in that city are disposed to lend assistance to the establishment of textile mills there. Mr. Manss is confident that the labor supply will prove adequate in that part of the country and points to the considerable number of prosperous textile mills in the West as proof of the practicability of the Association's plan.

The plan deserves success and we hope that the energy and enterprise of Chicago business men will overcome any difficulties that may be encountered. There is a natural tendency for each branch of industry to concentrate within narrow limits. This is due to certain well known advantages offered by concentration in manufacturing and marketing of the products. Nevertheless there are very serious disadvantages resulting from densely populated areas devoted mainly to one industry. Because of the resulting evils of concentration, the scattering of individual industries, such as would result from the development of textile mills around Chicago, is to be welcomed.

The present is not a propitious time for building new mills for the manufacture of goods already supplied by old mills, but is not Chicago's opportunity to be found in the manufacture of such goods as are now supplied by foreign mills? We are now importing textile goods of all kinds at the rate of $300,000,000 a year, duty paid. A large part of this merchandise could without doubt be made by our own people. Chicago has within recent years supplied an example of this possibility in the production of lace at Zion City, a line of work that has generally been supposed to offer the poorest chance for American labor and capital. Another large lace factory, an offshoot of the one at Zion City, was recently built at Elyria, Ohio.

An investigation of the $300,000,000 worth of textile goods now being imported would in all probability disclose other lines in which successful production in this country would be easier than in the case of lace. The first step to be taken by the Chicago Association of Commerce is to make a thorough investigation of our imports of textiles from both a manufacturing and a commercial standpoint. This is a line of investigation we have been suggesting to the authorities at Washington, both in these columns and by correspondence. It is a far more promising field for the development of American industries than is to be found in foreign countries, where our government has spent so much money to exploit markets for goods made by high-priced American labor in competition with goods made by cheap foreign labor.

Labor in Indian Cotton Mills.

Our readers will remember that in 1905 the "Times of India" published a series of articles on the long hours and the abuses of child labor in Indian mills. As a result of that exposure the Indian government appointed a committee of investigation which speedily made a report recommending that "the actual period of employment for adult males shall never in any one day exceed twelve hours, and that efficient means be taken to ensure that this restriction is duly observed."

The opposition from mill owners and allied interests to this recommendation was so strong that the Indian government sought a way by which its adoption could be avoided. With this object a second commission of investigation was appointed, and it is now openly charged that this body was packed so as to yield up the kind of recommendations that the government wanted. The report of the second commission has recently been issued and confirms the charges made by the "Times of India" that the workers, including children, are employed from 13 to 16 hours a day. The recommendations do not touch upon the employment of adults, but cover the following points:

1. Persons from 14 to 17 years of age to be employed not more than 12 hours a day.
2. Children to be employed not more than 6 hours a day.
3. Women and children not to work before 5.30 a. m. or 7 p. m.

Even if these recommendations are carried out conditions will be far from what are generally considered humane. The Indian operatives are now driven nearly to the point of

exhaustion, and the "marked absence of elderly men" among them (to use the words of the report) indicates plainly the effect of such conditions. The working of the operatives for long hours results in a reduction of efficiency, and it is estimated by the commission that it requires 2 2/3 hands in an Indian mill to equal one in a Lancashire mill.

In discussing the question of labor conditions in Indian mills Lancashire labors under a certain embarrassment, to conceal which very little effort is made. If English manufacturers advocate a shortening of hours in Indian mills the charge is flung in their faces that they want to weaken competition. In view of this awkward situation possibly a few suggestions from America may be welcomed by both sides. America has but a very remote if any selfish interest in the question. Outside of a few visionaries no one here expects to develop an important export trade in cotton goods with India. Our greatest concern would be to arrange a solution so as best to promote the general welfare of mankind. As a preliminary to making our suggestion let us outline briefly the salient facts:

1. India is a crown colony as distinguished from a self-governing colony like Canada, the Indian government being controlled directly and arbitrarily by the British government.

2. The Indian tariff on imports, controlled by the British government, is so low as to be negligible, the rate on cotton cloth being only 3 1/2 per cent., while yarns are admitted free.

3. A vast population of 300,000,000 with a low state of industrial development makes it possible for the owners of Indian cotton mills to overwork the natives, pay a low rate of wages (10 to 20 cents a day), and manufacture the lowest grades of cotton goods in successful competition with Europe. The resulting mental and physical exhaustion prevents a development of the operative for successful competition on finer goods.

4. Nearly all of the cotton goods imported into India come from Lancashire, 2,572,293,400 yards, being 41 per cent. of all the cotton cloth exported from the United Kingdom, having been sent to India in 1907.

Now for our suggestions, disinterested except on the score of common humanity:

Cut down the hours of labor in Indian mills to decent limits.

Restrict the employment of women and children.

Impose a protective tariff on imports of cotton goods into India in order to establish and maintain the manufacture of as large a proportion as possible of the cotton goods consumed in India.

The advantages of this plan?

It would enable the Indian people to work under humane conditions at remunerative wages, producing the goods that are now brought from Europe, principally from Lancashire; whereas at present there are "70,000,000 natives so reduced that no reform is of any use, there are 40,000,000 Hindoos always starving, 30,000,000 having died from famine in the last ten years."

A protective tariff would give the India people goods, money, living wages and a mental and physical uplift; whereas now Europe gets the money, India the goods, while the Indian population is on the verge of starvation.

Of course no such sordid consideration as the resulting loss of export trade by Lancashire should affect the application of the remedy for India's ills. We freely admit that like Lancashire we suffer a certain embarrassment in discussing the cotton trade of India, although for directly opposite reasons. It arises in our case for fear of the charge that the Indian trade is none of our business; in Lancashire's case, because it is nearly half of hers.

Nevertheless we offer our suggestions with a certain confidence that even if they do not lead Great Britain to grant to India what she cannot withhold from Canada, they may at least guide us in any revision of our own tariff schedules.

The value of the cotton, raw and manufactured, and its products in various forms exported during 1906 from the United States amounted to $485,000,000 and formed one-fourth of the total exports of the country.

Members of Two Associations of Cotton Manufacturers "Straw Vote" on Amalgamation.

The following letter, addressed to the members of the American Cotton Manufacturers' Association and the National Association of Cotton Manufacturers is self-explanatory:

Boston, Aug. 19, 1908.

Dear Sir: For several years the union of the American Cotton Manufacturers' Association and the National Association of Cotton Manufacturers has been the subject of earnest discussion in public and in private. It has been advocated publicly by presidents of both associations. The idea has met with general approval and little opposition. So far as we know, no attempt has yet been made to get an expression of opinion from all the members of both organizations. Naturally neither association is disposed to take the initiative, because of the natural inference that it might indicate a disposition to seek an alliance.

It has, therefore, seemed to us that an impartial outside third party might unofficially obtain an expression of opinion, which certainly would be interesting and probably useful in determining whether further action is desirable. For this reason, we are asking every member of each association to state his opinion, with the assurance that his name will not be disclosed and indeed need not be signed on the enclosed reply postal which will be known only to the tabulator by number.

The approval or disapproval of the general idea is the principal point to be determined, but sometimes the details affect a decision in such matters. In the discussion of this question, suggestions have been made that in the event of consolidation, there might be two meetings each year, one to be held in the north and one in the south; that the president should be chosen alternately from the northern and southern states; that offices be maintained in Boston and in Charlotte, as at present, to serve the convenience of the members of both sections of the country.

A reply by return mail is earnestly requested.

Yours very truly,

The Textile World Record.

The postal card enclosed with each letter bore the following questions:

Are you in favor of the union of the two associations?

Are you in favor of only one annual convention, or of two semi-annual conventions?

Have you any choice of name for the united association?

At the time this issue went to press we had received 534 replies, classified as follows:

Are you in favor of the union of the two associations?

Yes	427
No	88
No choice	19

Are you in favor of only one annual convention, or of two semi-annual conventions?

One	178
Two	287
No choice	49

Have you any choice of name for the united association?

No	241
Yes	190

The following names for a united association were favored by two or more members:

American Cotton Manufacturers' Association	63
National Association of Cotton Manufacturers	37
American-National Cotton Manufacturers' Association	22
United States Cotton Manufacturers' Association	14
United Association of Cotton Manufacturers	10
North American Cotton Manufacturers' Association	6
Cotton Manufacturers of the United States	5
Cotton Manufacturers' Association of America	5
Cotton Manufacturers' Association	5
United Textile Association	3
Northern and Southern Cotton Manufacturers' Association	2
Association of American Cotton Manufacturers' Association	2
International Cotton Manufacturers' Association	3
American Textile Association	2

Following are the names that had each one supporter:

American Association of Textile Manufacturers.
American Textile Association.
United Manufacturers' Association of America.
United Manufacturers of America.
United National Association of Cotton Manufacturers.
Consolidated National Association.
Cotton Manufacturers' Association.
International Association of Cotton Spinners.
Columbian Textile Craft.
Consolidated Association.
Acma.

A number of the replies were in the form of letters in which the writers' views on the questions were given at length. In view of

the general interest in these letters that will be felt throughout the trade we give a number of them here. In a few cases we had time to obtain the consent of the writers to the publication of their names:

Pawtucket, R. I., Aug. 20, 1908.

Your circular letter of the 19th is received. I am in favor of one association, to be called the National Association of Cotton Manufacturers, with a New England Division and a Southern Division, each to have separate officers and to hold meetings as at present, with the exception that every two years the fall meeting be held at a place convenient for both divisions. Proceedings of one day to be conducted by the officers of one Division; those of the next by the officers of the other. In matters of national or international interest, each Division to be represented.

Robert Burgess.

Dover, N. H., Aug. 20, 1908.

I note your circular letter of the 19th, with postal card enclosed, asking certain questions. In reply, I beg to say,

First. On general principles, I am in favor of the union of the two cotton associations. This union, however, must be accomplished with great care and judgment. An organization comprising these two great associations must be carefully planned and carefully governed. If this were the case, I believe that a union is desirable.

Second. It seems to me that two conventions each year is all right.

Third. In reference to the choice for a name for a united association, I have nothing to say at the moment. Each of the present societies has a good name and no doubt there are other good ones.

C. H. Fish.

New York, N. Y., Aug. 22, 1908.

Answering your favor of the 19th, I return herewith postal ballot to the effect that I am highly in favor of the consolidation of the American Cotton Manufacturers' Association and the National Association of Cotton Manufacturers. So as not to lose the identity of either I have suggested that it be known when united as The National-American Cotton Manufacturers' Association.

There is little or no reason for two associations, while there is every need for one harmonious body of interested men to care for this most important industry.

The plan suggested for two meetings each year, one in the North and one in the South, the selection of president and location of offices seems to be reasonable and just to all parties concerned.

Walter E. Holloway.

Philadelphia, Pa., Aug. 25, 1908.

Your esteemed favor of the 19th inst. in reference to the consolidation of the American Cotton Manufacturers' Association and the National Association of Cotton Manufacturers is duly received and we see no reason why such a movement should not prove beneficial to both associations and the textile industry at large. We should be pleased to do what we can to further such a movement.

It is our opinion that the details of such a union should be worked out by a committee appointed from both associations.

Norman Mellor.

Charlotte, N. C., Aug. 22, 1908.

I enclose herewith your postal card, and in reply beg to say that at the time I was president of the American Cotton Manufacturers' Association, I was in favor of the union of the two associations, but now I am opposed to such a union. I believe that if the associations would remain separate, as they are, and have their separate annual meetings in the spring and then both have a joint or union meeting in the fall, it would be desirable.

If there was to be any choice of names for a united association, I would prefer the "American Cotton Manufacturers' Association" as being the better and more appropriate name.

R. M. Miller, Jr.

Greenville, S. C., Aug. 26, 1908.

I have your circular letter of August 19th. It seems to me to be advisable to form a union of the American Cotton Manufacturers' Association and the National Association of Cotton Manufacturers.

I think the matter of the officers and the locations of the offices unimportant. What is desired is that we should have presidents who could direct the affairs of the association, with location of offices most convenient to the members.

Lewis W. Parker.

Lawrence, Mass., Aug. 20, 1908.

Your letter of August 19th, which has been sent out to all the members of the American Cotton Manufacturers' Association, and the National Association of Cotton Manufacturers, is at hand.

I do not see any advantage to be derived from a union of the two Associations. The old New England Association has an existence which they may well be proud of, and is doing a work which will continue to be useful to its members. Membership in this Association has been open to every manufacturer in the United States ever since its organization, and very few Southern or Western manufacturers availed themselves of the privilege. They now have an organization of their own, are themselves doing good work, and there is no reason why any member of either organization cannot be members of both, and they will avail themselves of such membership if they see any advantage to come from it. I am a member of both organizations, and I see nothing in particular to favor the union of the two Associations.

I think it would be for the advantage of the Southern members, if the union should take place, to have one meeting, at least, in the year in the Southern States, and perhaps be held as a branch of the parent organization.

W. E. Parker.

Charlotte, N. C., Aug. 25, 1908.

Yours about combining the two cotton manufacturing associations is at hand. Yes, I think

they ought to be combined. Here in the South we have State organizations which can do all local business. I think it would be all right to have two meetings a year, one at some place in the North, and one at some place in the South. I like the word American better than National, because under the name American we could include Canada and Mexico. Except for this, I think I would prefer the name National; but for a more comprehensive organization American is better. Canada might have a home organization as we have here in North Carolina and as they have in South Carolina.

D. A. Tompkins.

Boston, Mass., Aug. 24, 1908.

In answer to your inquiry I write "No" on the card. It has been my opinion that too much of a good thing is good for nothing. When the New England Cotton Manufacturers' Association was a much smaller body of men their meetings were worth attending and were appreciated by many. Since it became a larger institution, embodying a very large number of men engaged in the industry, it has not been so important.

The Southern Association is also an Association that is growing less in importance. This is caused by over-expansion.

If the New England Cotton Manufacturers' Association would confine itself to the New England membership only and the Southern Cotton Manufacturers' Association to the South only; or, if it were possible to have individual associations in the States, capable of getting a sufficient number together to create an organization that would be of mutual interest, it would be a great deal better. These several associations could be joint members of a national association, which would hold its meetings once a year, either North or South, or equally divided between the North and South and the Middle States, and have delegates sent from these various other associations to the national association, reporting to their respective associations and cooperating through the national association and their associations for the common good.

I believe this would be of considerably greater interest and add more strength to the situation than a large organization, attended by nobody but salesmen and for a big "whoop-up" by a lot of fellows coming from one end of the country to the other and meeting in any place. If the organization is solely for pleasure and only for an outing, I cannot see where it can benefit the mills. If the several organizations are strictly business organizations and the national organization is a concentration of the representatives of these different associations, I can see where much benefit may accrue to the industry at large.

W. B. Smith Whaley.

Philadelphia, Aug. 28, 1908.

We have received your circular letter of the 19th inst. concerning the proposition to unite The American Cotton Manufacturers' Association and The National Association of Cotton Manufacturers.

We certainly approve the proposed union of these two organizations and we view such a combination as presenting advantages which will be far more effective in advancing the interest of the cotton manufacturers of the country than either organization can secure by separate existence. We therefore hope to see the amalgamation effected.

H. H. Hubbert.

Almost every Southern State that is called a cotton mill State, now has its organization, and in many states they have semi-annual conventions. This is to some extent affecting the attendance at our annual conventions. Besides this a large number of members are also upon the rolls of both the American and National Associations.

With the combined membership I should certainly think it would be to the interest of all concerned to have the meeting semi-annually.

Have one convention in the early summer at some point at the North and the other at the South in November of each year.

Answering your request in regard to cotton associations, the writer is strongly in favor of union of the two associations and would consider that two semi-annual conventions, one in the North and one in the South would be the means of bringing together larger numbers, the papers presented at both conventions being of a practical nature as far as possible, with at least two besides the party presenting the paper who shall be prepared to enter upon the discussion of the same. As far as the name is concerned, that seems to be immaterial, as long as it presents the fact that it is the American cotton manufacturers who are associated together.

Answering your favor of the 19th in regard to a union of the American Cotton Manufacturers' Association and the National Association of Cotton Manufacturers, will say we are not in favor of this union as we do not believe an association of the combined size of the two present associations would give as satisfactory results to the manufacturers of the two sections as the associations do at present.

Our idea would be for the Board of Governors of each association to have annual or semi-annual conferences and to report their deliberations to their respective associations for action.

We think, however, it would be a good idea for the two associations to have their annual meetings at two different periods of the year: say one of them to be held in the spring and the other in the fall instead of conflicting as they have done several times in the past.

The interests of the associations of course are identical and they should act in unison on all important matters concerning the cotton, woolen and knit goods industries of the United States. We believe this could be accomplished satisfactorily by the annual or semi-annual conferences of the executive committees of the two associations.

We have not discussed the above plan with any other manufacturers but believe it to be the correct method for both associations to accomplish the greatest amount of good.

Gambling on Cotton and Stock Exchanges.

The worst abuse in the textile trade at the present time is gambling in cotton. Its only redeeming feature is that the practice has grown so bad as to make its continuance impossible. The wild orgies of speculation that have taken place in New York during the past month are likely to be of untold benefit to legitimate trade by awakening public sentiment to the necessity for establishing without delay a stringent system of regulation for cotton and stock exchanges. We class the two together because the gambling abuse is common to both, and it is not likely that it can be eliminated from the cotton exchange until stock speculation has been brought under proper regulation.

GAMBLERS ALL.

Gambling is natural to man. He can be accurately defined and distinguished as the animal that gambles. As far as our observation has extended we have never met a man or woman who did not enjoy the exhilaration of a gain or loss dependent on some uncertain contingency. Because gambling is a natural trait of mankind no one is warranted in assuming a holier-than-thou attitude when discussing its effects. The problem is to restrict the indulgence in this propensity for the protection of the public.

INJURY TO LEGITIMATE BUSINESS.

At the present time the concentration of capital at New York, the existence there of practically unregulated cotton and stock exchanges and the desire to speculate have brought about conditions that result in h avy losses and demoralization in the legitimate business of cotton manufacturing and trading.

While the gambling spirit is at the root of the evil the difficulty has been greatly aggravated by the operations of men, comparatively few in number, but skilled in the business of the exchange, who have adopted methods of eliminating the element of chance from their operations, playing a heads-I-win-tails-you-lose game with the public. They are like gamesters who play with loaded dice or marked cards, or like race track gamblers who have had certain horses "fixed."

MATCHED ORDERS.

The most effective trick to accomplish this object on the produce and stock exchanges is what is known as matching orders or washing sales, the latter term having led to the exchange on which such methods are in operation being called a laundry; and the brokers, laundrymen. In executing matched orders an operator arranges to have one of his brokers sell to another, who has been instructed to buy at the agreed price. Thus A, an operator, tells his broker, B, to sell 20,000 bales of cotton at 9 cents to C, a broker, who also acting for A, has been instructed to buy 20,000 bales at 9 cents from B. Such transactions are wholly fictitious, but give the market an appearance of activity and enable the laundrymen to put prices up or down without incurring any obligations to deliver or receive produce or stock.

It will readily be understood without further explanation that the difficulty of detecting matched orders is so great as to approach impossibility. It is for the interest of the few who have positive knowledge of the fictitious transaction to conceal their part in it. The following extracts from the press reports of the operations last month on both exchanges leave no reasonable doubt of the great extent of the evil:

Stocks: Charges that violations of exchange regulations had been flagrant were reiterated yesterday. The story was told of a young broker who was trying to buy 5,000 Reading from another broker, who was offering it an eighth up from the previous sale.

"You're not the fellow," the broker said to him. "I've got to sell this to a man with a red necktie."

Other instances of much the same character were reported from reliable sources. One broker said he offered a 500-share lot of steel at 45 5/8. He could find no taker, but at the same time there was made a sale of a 10,000-share block of the same stock at 46. In this case and in many others a broker offering to sell or desiring to purchase a block of real stock was completely ignored by the brokers to whom had been given the orders for the purchase and sale of big amounts.

Cotton: The cotton market yesterday saw the most exciting day of the season, in many ways the

most sensational day since the days of Daniel J Sully. More than 500,000 bales were traded in, and more than $1,000,000 was made and lost across the ring. It was a day of liquidation, a day that marked the rout of the Wall Street bulls, and the complete victory of the strong crowd of cotton men that has borne the brunt of the fight on the bear side. Yesterday marked the windup of one of the prettiest market fights the cotton trade has ever known—it seems to say that it marks its close, for it is hardly to be expected that the interests which threw their cotton overboard yesterday will make another effort to bull October cotton.

Stocks: Apparently the firm's managers decided to sell themselves much of the stock which was bought for their account. In every case they had advance notice of the firm which was to buy in and when other brokers began to buy in, on the customary witnessed transactions, brokers from A. O. Brown & Co. sold much of the stock.

Cotton: The bulls did not wait to see what the market was going to do, they had their big selling orders in at the opening, and from the start they began to toss cotton into the ring. Brokers were given orders to sell 10,000, 20,000 and even 50,000 bales, and they were not restricted as to the price at which they should sell it. All the orders were selling orders. There was not the slightest effort made by anyone to support the market.

Stocks: A representative of the firm confirmed this estimate late in the afternoon. In the two hours of business on Saturday, he said, the firm had traded in the vast total of 1,500,000 shares. On that day there were sales of 1,116,000 shares, and since on every transaction there is both a sale and a purchase, this statement showed that from one firm had come orders representing three-fourths of all the sales and purchases made. Not one house, experienced brokers said, had ever before attempted transactions of such magnitude. Many of them insisted that no other house had ever considered it a possibility to deal in stocks at the rate of 12,500 shares a minute.

Cotton: There are many in the market who believe that if on August 7 the bulls had forced October to 10 cents, the bears might have run and left victory with the longs. This is doubtful, however, as from the very start of the fight the bears have shown great confidence even when the market was going against them very heavily.

Stocks: Further reports tending to establish the fictitious character of much of Saturday's business were circulated yesterday. One broker in his excitement was said to have run up to the Smelters post and declared:

"I've got an order to sell $10,000 shares to ———. Where is he?"

In another of the reported cases a broker had been commissioned to sell 10,000 copper. Simultaneously another had been commissioned to buy 10,000 of the same stock. There was a great commotion about the Smelters post, and in the confusion the broker with the buying order bought most of his 10,000 at 79, while the one with the selling order sold it way down to 76. The orders did not match, and the result was obviously very expensive.

Cotton: The break, coming on the heels of a report from the south of heavy damage to the growing cotton because of the floods, took Wall St. by surprise. Under the circumstances the natural movement of the market should have been to higher prices. When the market opened, however, one broker appeared with an unlimited order to sell 15,000 bales of the October, December and January options. Heavy selling pressure immediately followed and by noon prices had slumped from 15 to 18 points.

COTTON BALES AS GAMBLERS' COUNTERS.

If this were any of the common forms of gambling, say the poker game, in which the stakes are represented by chips, the textile trade would have no special interest in it. The harm to the textile trade, however, arises from the fact that bales of cotton take the place of poker chips and the resulting fluctuations in cotton prices affect the exchangeable value of all the cotton in the world, whether in the raw state, in process of manufacturing or in the form of cotton goods. And the losses arise not only from the changes in the market value of the raw stock and manufactured goods, but also from the demoralization of manufacturers, who find that their greatest economies in mill processes apparently count for nothing because of the speculative fluctuations of cotton values.

PRESENT LACK OF REGULATION.

Existing means of regulating the trading in produce and stocks are wholly inadequate to prevent the outrageous abuses to which we have called attention. In discussing the question we make no attempt to distinguish between produce and stocks because the evil system is one common to both. Neither have we referred to the waste and burden on society in general, resulting from this species of gambling, by which wealth produced by the worker and the capitalist is transferred to the pockets of a few adroit and unscrupulous men. This general phase of the evil has been avoided in order to concentrate attention on the question as it affects the textile industry.

TEXTILE INTERESTS INVOLVED.

In the textile trade alone the interests affected are so vast as to make the call for reform imperative. The cotton trade of the world is involved in the question of how cot-

ton and stocks shall be bought and sold in the city of New York.

OPPORTUNITY KNOCKS.

Now is the appointed time for a complete eradication of the abuses to be put through. The gamblers of both exchanges have recently excelled all previous records in their evil practices. The American people are imbued with the spirit of reform. And last, but not least, the two exchanges in greatest need of reorganization are located in a State that during the past few years has signally demonstrated its ability to correct such abuses. The regulation of life insurance and public service corporations and the abolition of race track gambling in New York are examples that should be followed in the case of produce and stock exchanges. What is needed is a calm, patient, thorough investigation, a careful study of the facts disclosed, a formulation of the remedy and then the application of it, all done without excitement, without regard for the effect on the personal interests of politicians, but with the sole purpose of securing even-handed justice for all. Regulation of the offending exchanges can be best secured from the State government at Albany. The pretense of reform by the exchanges themselves is farcical. The Washington authorities are investigating produce exchanges, but have devoted their attention thus far to features which, though important in themselves, are but details, the real difficulties, gambling and matched orders having been purposely avoided as will be seen from the following extract from the recent report of Herbert Knox Smith, Commissioner of Corporations:

It is not intended, in this report, to enter into a general discussion of the merits or evils of speculation.

THE DUTY OF TEXTILE ASSOCIATIONS.

Now is the time and Albany is the place for the textile trade in every part of the world to make its influence felt. With such an international organization as the Cotton Conference proposed at Atlanta the trade in foreign countries could have exerted their influence without the suspicion of unwarranted interference. But in the absence of that means of expression, the duty of every cotton organization is to use every effort to make clear to the authorities at Albany the need for reforming the New York Cotton and Stock Exchanges in the interest of legitimate trade throughout the world. Fortunate indeed will it be if that reform is so thorough as to arouse the resentment of the gamblers to such a pitch that they will refuse to transact even legitimate business if the leader in the reform movement should come within a block of either exchange.

British and American Khaki.

Manchester, Eng., Aug. 14, 1908.

Editor Textile World Record:

I duly received your letter of the 5th inst. and am much interested in the article you have kindly enclosed on "British Khaki for American Soldiers."

Probably most of your readers will conclude that your American khaki is at least equal to if not indeed far superior to our British make, but with all due deference to those who believe themselves competent to judge, I affirm that your article proves nothing of the kind. If mere weight and closeness of construction decided the matter of superiority, the figures, of course, would show the British make to be badly left, though the intentional discrepancy in weights is so great that comparison following upon that basis is difficult.

But the main point I wish to bring before you is that our British khaki cloths are made to a specification in which ***strength*** is the main factor and the particular in which the British maker is compelled to shine or to have his cloth rejected. Our khaki cloth must "pull" the requisite number of pounds on the prescribed testing machine, and I speak with very definite knowledge when I say that even today our best manufacturers find a difficulty in producing a grey cloth good enough to be worth dyeing.

And that is not all. What we know as the genuine khaki dye is a most difficult thing to produce and in any case it tenders the cloth more or less. It is not of course for me to say that American manufacturers and dyers cannot produce equally good cloths nor will I deny that they may possibly have found a royal road to the production of the highest grade khaki and that their superior attainments may have yielded the desired results which on this side it has taken every dyer and manufacturer months and years to achieve.

To crystallize my remarks yet more clearly let me say then that had your examination extended to the strength testing of the samples in question, your remarks in accepting the superiority of the American cloth might have been justified. It would, of course, be absurd to compare the strength of a 6 oz. cloth with an 8 oz., and should the result chance to be the same it would, of course, show the very great inferiority of the 8 oz. cloth. Let it not be supposed for one moment, as

those manufacturers will say who have not made too close strength test specifications, that they can bring up the strength by putting in a few extra picks, by increasing the twist a few turns or by such apparently obvious means. The influence of yarn and cloth construction upon strength in the dyed cloth is a subject that has yet to be learned, let alone taught, and hundreds of tests I have made tend but to show the complexity of the problem and how difficult it is to generalize.

I see nothing in your quoted specification for your government supply which compels any particular standard of strength to be passed, and this being the case you could certainly get any amount of Lancashire made khaki at far lower cost than the British cloths which are made to give a good strength test. The British, German, French and most other governments insist upon their strength figures being kept up to in practically all army cloths, and if the United States authorities have not followed suit they may look out for some sorry stuff being sent in against their orders, though it will pass every clause in the quotation you give from their specification.

You will, I am sure, gather that I have no particular interest in the question as to whether you should have American khaki for American soldiers, but I am glad to take this opportunity of pointing out that British khaki has yet to be proved inferior to American or even comparable. You cannot compare a cloth made to stand the highest possible strength test and to be dyed with a specific dye, with a cloth that has no such restrictions placed upon it and where mere appearance will captivate the eye of the inspector.

By all means use this letter in your journal if you think it suitable.

Yours faithfully,
J. H. Lester, M. Sc., F. I. C.

Mr. Lester's letter was written under a misapprehension. The conditions to which American manufacturers have been compelled to conform in making khaki cloth for the United States army, include definite requirements as to strength, as will be seen by the following extract from the official specifications:

Strength: To sustain a tensile strength of not less than 125 pounds to the inch in the warp and not less than 80 pounds to the inch in the filling.

The question of strength was not included in the August discussion because the lack of information made it impossible to consider it fairly. The samples received from the War Department were too small for testing purposes, even if it had been possible to make a fair comparison of strength. The British khaki was much lighter than the American, and, as Mr. Lester justly states, it would be absurd to compare the strength of a 6 oz. cloth with an 8 oz. We will go farther than Mr. Lester does by stating our belief that even if the American cloth made with 2-ply yarn and weighing 8 ounces per yard had proved to be much stronger than the British cloth made with single yarn and weighing only 6 ounces, that fact would not necessarily demonstrate the inferiority of the British goods. We agree entirely with what he says on this point and want him to know that we had these facts in mind when writing "British Khaki for American Soldiers."

For like reasons we made no attempt to compare the two makes of cloth as regards fastness of color. No one had seriously called the American color into question, nor has there been produced even now the least scintilla of evidence that the American khaki is inferior to the British in either fastness of the color or strength of the fabric. The only reasons advanced for buying British goods were, to use the words of Major-General Wood as quoted approvingly by the President, that "the English khaki was more loosely woven, better suited to the tropics and the making was better and cheaper." On that basis we investigated the question and succeeded in demonstrating beyond question:

First, that the "making" of the American goods was greatly superior to the British.

Second, that the finer and more closely woven American khaki was sold to the United States Government in one case for but little more than the British cost, and in the other for less than the British.

Third, that, while the lighter, slazier and cheaper British cloth was without doubt "better suited to the tropics," the reason for this was that the United States War Department had refused to allow American manufacturers to supply the lighter and cheaper cloth for military purposes.

No more complete vindication of American manufacturers against the implied charges by Major-General Wood, endorsed by the President, of making inferior goods could be imagined or desired.

If now it is desired to extend the comparison of British and American military khaki to include strength and fastness of color, no one will be more anxious to have a thorough test of those qualities of the re-

spective fabrics than ourselves. To accomplish this object large sized samples, say two or three yards each, of British and American goods which are as near as possible identical in fabric structure, should be obtained, and submitted to some expert as competent and fair-minded as Mr. Lester himself, for a thorough investigation. Will Mr. Lester volunteer to make these tests and report upon them? If he will, we will do our best to obtain and send to him the sample length of American goods, leaving him to select the British. This will place the problem on a scientific basis and remove it from the field of vague speculation, prejudice and official ignorance.

But whether we have the aid of such a test or not, it should not be forgotten that our discussion of the recent contracts by the United States War Department for British and American khaki is wholly removed from the relative skill and efficiency of British and American cotton manufacturers. On this latter point no one acquainted with the cotton industry has any doubts. It is in Lancashire that the finest cotton goods in the world are spun and woven, and it is in Lancashire that the cheapest and most adulterated cotton goods in the world are made. During the past century or more since the inventions of Arkwright, Cartwright, Watts and Eli Whitney made the modern cotton industry possible, Lancashire has approached perfection in the making of both high and low grade goods. Americans are friendly rivals of Lancashire in both of these branches of manufacturing. Lancashire, with her restricted home market and dependence on foreign supplies of food and raw materials, naturally prefers to work under free trade; America, with her immense and rapidly increasing home market and practical independence of foreign products, as naturally prefers protection. We can recognize Lancashire's position, and we hope she will recognize ours. And, regardless of whether the khaki made in Lancashire is superior in color or strength to that made in America, let us hope that those who wear British and American khaki uniforms may always stand ready to touch elbows in defense of their common institutions.

AN ENGLISHMAN'S VIEW OF THE CANADIAN TARIFF.

Mr. Edward Fisher of the old established firm of Mark Fisher, Sons & Co., Montreal and Toronto, with headquarters at Huddersfield, Eng., paid a short visit to Canada last month. Mr. Fisher is the head of this firm, and is also chief shareholder in the Montreal Woolen Mills Company, of which Jos. Horsfall is manager. Mr. Fisher's firm has for many years past done a large trade in Yorkshire goods with Canada, and being interested in the Canadian woolen trade, his views on the present situation are interesting.

A representative of the Canadian Textile Journal had a conversation with Mr. Fisher and he agrees with the opinions of those engaged in this branch of industry that there is no possible hope of the Canadian woolen manufacturers surviving long under the present tariff conditions. If he found a purchaser for the water-power and buildings of his mill in Montreal at any reasonable price, he would close up the business at once.

"I would not give ten cents on the dollar for the best equipped woolen mill in Canada today," said Mr. Fisher, "that is, assuming that the present tariff is to be permanent. At the same time I must admit that the Canadian mill has given better value in the past to the consumer of cheap woolens than can be had elsewhere, and I am surprised that the Canadian public does not realize the value of the industry which the present tariff is surely destroying. I am in the business myself as an exporter and, of course, know what classes of goods go into consumption in the Canadian trade. So far as the interests of our firm are concerned, it would pay us best if there were no woolen mills at all in Canada, because our trade as exporters to Canada is of a far greater consequence financially than my interest as a manufacturer of woolens, even assuming that the tariff were such as to enable us to make money out of the Montreal mills."

With the brevity, directness, bluntness of an Englishman, Mr. Fisher has struck the keynote of the whole position, and it will remain to be seen whether our Government

and people are prepared to continue the policy of drift and destruction, or whether by reforming the tariff to suit modern conditions they will re-create the woolen trade, which in former days served the people so well.—The Canadian Textile Journal.

Marketing Cotton.

BY D. A. TOMPKINS, Charlotte, N. C.

Cotton is a sub-tropical plant.

In the tropics the bugs and weevils destroy it.

In cold climates the frost destroys the immature boll and even in a temperate climate sometimes a drought in summer or an early frost will very materially affect the production per acre. If the drought and the frost are cumulative the result is disastrous in proportion to the square of the damage by either.

If good seasons of rain and sunshine in summer and fair weather in fall and early winter combine, the production is immense and beyond requirement.

If in summer there is a fair season and the fall is open and in the same year there is an early frost, the crop is very short.

If in summer there is a fair season and the fall is open and fair, there is a big production. If a minimum crop, because of weather conditions precedes a maximum crop, because of other weather conditions, it makes a famine one year and a glut the next.

The famine year ruins the cotton manufacturer.

The fat year ruins the farmer.

In the years past we heard that the cotton farmer needed a Moses. The cotton farmer did need a Moses. Look at the record:

In the first decade after the civil war the cotton farmer made two and a half million bales of cotton a year, for which he got 24 cents a pound, which yielded $300,000,000

In the second decade he made five million bales a year, for which he got 12 cents a pound, which yielded $300,000,000

In the third decade he made ten million bales a year, for which he got 6 cents a pound, which yielded $300,000,000

Three decades were enough to show that he needed a Moses.

The cotton factory was his Moses. It took labor off the farms and turned them to spinners and weavers.

It took competitors and made them patrons of the farmer.

The factory so reduced the competition and so increased the demand for cotton that in the fourth decade the production has been about the same as in the third decade and the price 12 cents instead of 6 cents. The result is that the crop of the fourth decade remains the same as that of the third instead of double what it was in the third. Instead of the crop doubling the price doubles and the same old ten million bales brings not three hundred million dollars, but $600,000,000

Yet in this fourth decade a ten million bale crop yields the farmer six hundred million dollars while in the succeeding year a crop of thirteen and a half million bales yields only four hundred and fifty million dollars.

The farmers' Moses has been found. He is the cotton factory. What the farmer now needs is a Joseph. Listen to what Joseph did:

> And in the seven plenteous years the earth brought forth by handfuls.
>
> And he gathered up all the food of the seven years, which were in the land of Egypt, and laid up the food in the cities; the food of the field, which was round about every city, laid he up in the same.
>
> And Joseph gathered corn as the sand of the sea, very much, until he left numbering; for it was without number. . . .
>
> And the seven years of plenteousness that was in the land of Egypt were ended.

And the seven years of dearth began to come, according as Joseph had said; and the dearth was in all lands; but in all the land of Egypt there was bread.

And when all the land of Egypt was famished, the people cried to Pharaoh for bread; and Pharaoh said unto all the Egyptians, Go unto Joseph; what he saith to you, do.

And the famine was over all the face of the earth: And Joseph opened all the storehouses, and sold unto the Egyptians; and the famine waxed sore in the land of Egypt.

And all countries came into Egypt to Joseph for to buy corn; because that the famine was so sore in all lands.

As the development of manufactures was the Moses to lead the cotton farmer out of the wilderness, so the development of commerce must be the Joseph who is to average the production of a series of years and thereby meet the world's demands and steady the price.

We have all appreciated, more or less, this need of some means to average the conditions—to average the quantity of cotton delivered annually to the factories and average the price. The first suggestion was naturally that there should be warehouses provided to carry the surplus from the full years to make up the deficiency in lean years. Many warehouses have been built, but it transpires that warehouse room is but one factor in the reform needed in the commerce of cotton.

A bale of cotton in a warehouse signifies nothing to the distant man with money to invest. The European spinner, for example,

COTTON CERTIFICATE.

GUARANTEEING SAFE STORAGE, INSURANCE, GRADE AND WEIGHT.

WAREHOUSE No.....

*CERTIFICATE NO.*_____ _____ *190*

RECEIVED ON STORAGE FOR

_____

_____

_____

_____

(_____) _____ *bales of* _____

Cotton, marked _____, *weighing and grading as per details below.*

(Cotton received wet is docked as the judgment of our weighers dictates.)

Deliverable to _____ *order only on surrender of this negotiable receipt properly endorsed and payment of all charges that may be due at the time of delivery.*

This Company guarantees grades shown below, and insures the cotton while contained in its warehouse against loss by fire, and guarantees that this cotton, while in our custody, will not lose in weight more than _____ *per cent. from weight shown below.*

This receipt is transferable by delivery and endorsement, and carries with it the title to said property.

_____ *Sec'y and Treas.*

_____ *President.*

_____ *Custodian.*

EXPLANATIONS

CLASSIFICATION	GRADES — AMERICAN STANDARD CLASSIFICATION		LENGTH OF STAPLE — INCHES TO MILLIMETRES				NOTES
	No. Grade	No. Grade	Inches	Millimetres	Inches	Millimetres	TINGES: Figure 1 represents a very slight tinge. Figure 10 represents a maximum tinge. Intervening figures represent intermediate tinges from 1 to 10.
1. Sea Island	1. Fair.	19. Good Middling Tinged.	9-8	9.525	1	25.4001	SOFTNESS OF STAPLE: Figure 1 represents softest staple. Figure 10 represents hardest staple. Intervening figures represent intermediate degrees of softness in proportion to figures.
2. Egyptian	2. Strict Middling Fair.	20. Strict Middling Tinged.	7-16	11.1125	1 1-16	26.9876	
3. Rivers	3. Middling Fair.	21. Middling Tinged.	1-2	12.7	1 1-8	28.5751	
4. Bendero	4. Barely Middling Fair.	22. Strict Low Middling Tinged.	9-16	14.2857	1 3-16	30.1626	FINENESS OF STAPLE: Figure 1 represents the fineness of best Sea Island. Figure 10 represents the coarsest fibre. Figure 5 represents good grade of American Uplands. Intervening figures represent intervening degrees of fineness.
5. Peelers	5. Strict Good Middling.	23. Low Middling Tinged.	5-8	15.875	1 1-4	31.751	
6. Uplands	6. Fully Good Middling.	24. Strict Good Ordinary Tinged.	11-16	17.4625	1 5-16	33.3385	
7.	7. Good Middling.	25. Fully Middling Stained.	3-4	90.05	1 3-08	34.0251	
8.	8. Barely Good Middling.	26. Middling Stained.	13-16	20.6675	1 7-16	36.5126	STRENGTH OF STAPLE: Figure 1 represents greatest strength. Figure 10 represents weakest. Intervening figures represent intervening degrees of strength.
9.	9. Strict Middling.	27. Barely Middling Stained.	7-8	22.225	1 1-2	38.1001	
10.	10. Middling.	28. Strict Low Middling Stained.	15-16	23.8125			
	11. Strict Low Middling.	29. Fully Low Middling Stained.					
	12. Fully Low Middling.	30. Low Middling Stained.					
	13. Low Middling.	31.					
	14. Barely Low Middling.	32.					
	15. Strict Good Ordinary.	33.					
	16. Fully Good Ordinary.	34.					
	17. Good Ordinary.	35.					
	18. Strict Good Middling Tinged.						

WAREHOUSE CHARGES:

Charges commence from date of this Certificate as follows:
Storage and insurance cents per month.
Weighing on receipt at Warehouse, 3 cents per bale.
Weighing when leaving Warehouse, 2 cents per bale.
Grading and for guaranteeing grade, cents per bale.

We charge for full month when cotton is in warehouse a less time
Weighed by _____
Graded by _____
Checked by _____

Bale Number	Weight	Classification	Grade	Tinge	Length of Staple	Softness of Staple	Fineness of Staple	Strength of Staple	Bale Number	Weight	Classification	Grade	Tinge	Length of Staple	Softness of Staple	Fineness of Staple	Strength of Staple	Bale Number	Weight	Classification	Grade	Tinge	Length of Staple	Softness of Staple	Fineness of Staple	Strength of Staple

doesn't know anything about the responsibility of a local warehouse company. For this reason alone the receipt of a local warehouse for cotton is not negotiable in Europe. But there is another reason still more important, and this is that the spinner cannot take the risks of grade, of weight and of many other features of the quality of the cotton.

Therefore, in order to bring the surplus of an excess crop within reach of the investment money of the world, all the conditions necessary for doing this must be worked out and made available at once. Part of them do not advance the purpose to be accomplished. The warehouse room necessary to carry three million bales of cotton is not sufficient. The bale of cotton is too cumbersome to make the cotton itself a basis of credit and trade. For the man who is willing to buy part of the surplus and carry it for future use and must have something more than a simple certificate calling for one bale of cotton without further specifications, the cotton is too cumbersome for him to ship it and take charge of it. A warehouse receipt guaranteeing proper storage and delivery of a bale of cotton is not sufficient.

What is needed to make cotton a basis of general trade and credit is a combined storage receipt and guaranteed certificate of classification, grade, weight and other points affecting the working quality or value of the cotton.

This would require a guarantee company which would have in its employ a corps of expert cotton graders. One of these would examine and determine every factor affecting the value or use of a bale of cotton. He would fill out the certificate with the facts about a bale of cotton and the guarantee company would become responsible for every feature of the cotton as specified in the certificate, including storage, insurance and delivery when called for, as well as classification, grade, weight, etc., etc.

A certificate so filled out and guaranteed would become a negotiable commercial document. The spinner, European or American, could buy these certificates when the surplus was depressing the market and lay them away in his safe until the cotton was wanted to spin.

The local warehouse would be benefited because purchasers would in most cases prefer not to move the cotton until wanted.

The spinner could buy his cotton by the figures in the certificate and this could be done in Europe as well as if the cotton was there.

It would relieve the banks of the South from the burden of carrying the cotton crop for the farmer, and would relieve the farmer from the necessity of forcing sales, because he could get for his own cotton guaranteed certificates, which would stand for a loan in New York or elsewhere than in the South.

It would give a natural commercial means of equalizing markets and prices and would make our commerce with the world vastly more satisfactory.

I favor the development of cotton production in other parts of the world as proposed by the English and Continental spinners. This would bring climatic influence to bear to get a better average. The chances of general frost damage would be reduced if the crop was more widely scattered.

I believe all the cotton farmers would be benefited by any influence that tended to reduce the variations in production and price. Great variations injure the farmer as well as the manufacturer, and whatever tends to steady production and prices is an advantage to both.

A guarantee company could do its business in existing warehouses and compresses. It would improve the business of these.

THE GUARANTEE CERTIFICATE.

The essential features of the plan would be:

(1) A system of local and central warehouses.

(2) A corps of inspectors and graders.

(3) A certificate giving every detail the ultimate buyer or spinner would want to know about the cotton.

(4) A guarantee company, to stand for the cotton and the facts as represented in the certificate.

(5) A Cotton Exchange to handle a standard trading certificate, exchangeable

for actual warehouse or delivery certificate.

This is a plan to issue a certificate on cotton which would stand good for its safe storage and also for the grade and character of the cotton so accurately determined and defined by an expert that the certificate becomes a better basis of credit and better also to purchase than the cotton itself would be. The cotton would remain in the original storehouse any length of time, even more than a year, while in the meantime the certificate might have been hypothecated or bought and sold many times. The certificate represents the cotton as accurately as a gold certificate represents gold in the treasury. Unless it was absolutely certain that gold of a guaranteed weight and degree of fineness would be delivered in exchange for a gold certificate on application, the certificate would not circulate at all. With certainty of getting the gold when desired, the gold certificate is accepted in preference to the gold.

So a proper cotton certificate ought to suit the purpose of finance and trade better than the clumsy bale of cotton.

To the cotton buyer, the cotton manufacturer and the bank, in fact, in all commerce, the certificate I propose represents the bale of cotton more accurately than the buyer, manufacturer or banker could define or judge of its qualities if the actual bale was in view. This certificate is the record of an expert's determination of every feature of the cotton.

These receipts could be issued on cotton not stored but for immediate shipment, the bill of lading taking the place of storage feature. The advantage would be to get the actual cotton purchased and a definition of this by an expert.

The company issuing these certificates could issue them on cotton in any local warehouse, taking proper bond or security from the local warehouse company to secure safe storage and certain delivery.

Each bale would be separately inspected, classified, graded and separately recorded The certificate hereto attached would stand for one hundred bales of any less number.

Heretofore cotton warehouses have issued receipts which made them responsible for nothing except to store cotton and deliver it when called for. Most of these receipts disavow responsibility for quality, shrinkage, and even claim the right of substitution. They stand for nothing except to deliver a bale of cotton.

The certificate I propose (copy attached) guarantees everything. The cost of storage under this certificate would be the same as under the old. In addition to this storage cost there would be a charge of say 50 cents a bale for expert grading and guarantee of grade and for guarantee of weight, strength and other characteristics as provided for in the blank form.

The company issuing these certificates would have to establish its responsibility beyond a doubt; such a company might or might not own warehouses. Whether it did or not it could issue certificates in warehouses other than its own. It could issue certificates on all cotton for shipment, omitting the warehouse feature.

Such certificate would so accurately represent a bale of cotton as to make its buying and selling easy and safe in any of the cotton markets of the world or make it safe collateral in any of the financial markets of America or Europe.

It would tremendously facilitate trading in cotton, because specifications could be copied and forwarded to a number of different people to show what cotton was for sale. When a trade was made the certificate could be forwarded through the banks. Indeed a monthly book of cotton in store could be printed like R. R. schedules are printed in book form monthly.

THE HANDLING.

The handlng would naturally be best done in a commercial exchange. A standard "Exchange Certificate" would be handled and these would be made convertible to the actual warehouse certificate on a basis of paying or collecting differential differences on a fixed basis determined by the exchange.

The plan of doing this has already been worked out and put in operation for pig iron by the Storage and Warranty Company.

An amount of pig iron is bought on the exchange in the form of standard exchange certificates. Then the purchaser inspects the registered quantities of actual pig iron

available for use in the various yards, at the blast furnaces and in the markets. The buyer may then select what he wants at most convenient points of storage and swap his exchange certificate for delivery certificates, pay the difference between the trading standard and the actual iron and then get the metal from the storage yard for use in his foundry.

On the same plan a commercial cotton exchange could authorize a trading certificate for use on the exchange, which might at any time be swapped for actual warehouse certificates, calling for delivery of actual cotton. Trades and settlement on the exchange would not be interfered with nor in any way hindered, but any exchange certificate would always be convertible into a delivery certificate on which the actual cotton could be obtained for spinning.

It would not be desirable to forbid trading not based on actually handling cotton. A mill might often buy exchange contracts and want to sell same for good commercial reasons. All protective contracts, or hedges, are more or less of this sort.

A mill might find it very advantageous to sell its product in cloth to cover a four months' run. An exchange contract is necessary to protect the mill, but during the four months it might be better to buy the cotton locally and sell the contract. Nothing in the proposed system would forbid transactions for legitimate purposes, but each and every exchange certificate could be converted into a warehouse delivery certificate if the buyer so desired.

The plan contemplates that in every market town there would ultimately be a local warehouse. It contemplates large warehouses at central points and these would be delivery centers. Differentials for delivery points would be handled in precisely the same way that differentials in pig iron are now made for different delivery points.

In the early part of this article I have spoken of the advantage to the farmer of a system of warehouses that would at the same time take care of the cotton for as long a time as necessary to get normal average results instead of abnormal ups and downs.

There would also be the advantage of bringing the surplus money of the world and in all parts of the world to a safe investment in securities or certificates of stored cotton. The scarcity of money in the cotton belt has often had a tremendous influence in depressing prices of cotton or in making them variable. While this scarcity of money has existed in the South, there has always been in some parts of the world plenty of money whose owners were willing and anxious to lend it upon cotton if there was any secure way of doing it other than moving the bale of cotton to the point where the loan was to be made.

Under such a system as I propose a cotton exchange properly organized would be the medium through which all of this business would naturally be done. Such an exchange would be a beneficent commercial organization instead of a gambling institution. It would contribute to the economy of the whole commerce in cotton. The cotton would generally first be stored in a local warehouse in market towns under an ordinary warehouse certificate, and would in due time naturally progress to a central warehouse point where a new certificate, giving grade and every detail would be issued. This certificate would be negotiable anywhere in the world and would serve as a basis of credit.

Such a system would be of immeasurable value to the mills, inasmuch as they could then go into the market and sell goods as they wanted and then cover and hedge through the exchange upon the actual cotton that they want or so nearly that it would be the equivalent.

This system was discussed by me before the Shreveport Cotton Convention in 1904. It was further discussed by me before the cotton convention in New Orleans and again in Atlanta. Interest is increasing all the time. Throughout the South farmers are organizing local warehouses and these will all naturally in time become a part of the system.

The system must necessarily be a development and the development is now going on.

TEXTILES AT THE FRANCO-BRITISH EXHIBITION.

(By Our Special Correspondent.)

A few American textile manufacturers have been met at the Franco-British Exhibition, which is the year's greatest attraction at London. This description is for the others who may want to know what is to be found there that would be useful to them. To begin with, there is pleasure in plenty in gazing on the domes and palaces, dining in the open and listening to French and British crack regimental bands. There are exercises for those who need it in patrolling 30 miles of garden paths and innumerable miles of showcases and exhibits. Also there is a chance, not so great as it should have been, of adding to one's textile knowledge. Views accompanying give an idea of how the exhibition looks and when it has been said that the ground occupied is 140 acres, that 40 acres are under cover, and that transport facilities exist for pumping in 75,000 people an hour, one can pass to the textile details.

THE COURT OF HONOR.

Apart from pleasure, then, why should the American manufacturer go to this great American celebration of the *entente cordiale?* Not to see textile machinery in all its ramifications. Machinery is scarce, but Hattersley's of Keighley, a firm with an extensive Continental trade, show ten types of looms. There are the coating and lighter looms which are popular in this country and the automatic shuttling and picture-tapestry types which have been taken up chiefly abroad. The smallware frames, weaving two heads each of wick, tape or ribbon, and fashioning perfect edges on material 3/16 inch wide earn more than passing notice. Over the filling and warp stop motions, the style of the bobbin race and the accompanying beaming and winding equipment a man spends an enthusiastic hour. Near by is Joseph Cooper's (Bradford) wool comb, a chain-driven pattern with three circles and with discs, ratchet-toothed, which replace brushes in pressing the wool into the pins. Comparison is possible between its work and that of the two circle combs of Prince Smith's regular pattern running beside it. At the exhibition, using 2 1/4 h.p. and running 4 revolutions

the patent comb has an output reported to be 1,000 pounds a day; and the regular comb with two circles, using 5 1/4 h.p. and making 4 1/2 revolutions, an output of 400 pounds a day.

Except chiffon and muslin looms by the Ateliers Diederichs, Bourgoin (Isere), madras and leno jacquards by the Anderston Foundry, Glasgow; a Northrop loom (standing) and an inert and wholly unexplained gassing-frame by the Societe Electro-Textile of Paris, there are no other purely textile machines.

One turns to the fabrics with an eye for what England is doing, not simply for her home market and those like it, but for the more primitive countries abroad. Take the Manchester exhibit and firstly the stands of the Calico Printers' Association. Note the effect of realism produced by showing a proportion of the goods in garment form, draped on lay-figures. See how printed floral bordering on voiles, muslins or delaines, cut and applique worked by the dressmaker can be utilized in the richest styles of dress. Observe the cretonnes, curtains, cushions and piece goods made for cultivated taste. Pass along to the display of prints in the styles and the applications favored in India and Burmah, and note the dominance of strong green, blue, red and yellow prints. China's inclination towards violet and black, towards prints in aluminium powder stripes for cushions and towards exaggerated dragon designs are all emphasized clearly. For Japan, the printer follows the Japanese artistic convention, giving strange birds on odd-shaped patches of discharged or resist-printed cloth. Java's liking for chocolate and cream, claret and dark-green contrasts and for prolonged saw-tooth decoration is clear. The Turkish man in his long tunic of striped cotton coating and the Turkish woman in striped dress and black perforated and embroidered shawl are seen in a shop hung with hangings reminiscent of native Persian pattern.

The exhibit is educative in that it shows what there is to do to supply the heathen with their more ornate needs in fancy cottons. For a further example take Simpson & Godlee's West African styles. The colors are red, indigo and black. The design includes an outline of what may be an altar, a harp or a Voodoo symbol. This tribute to barbarism comes into sharp conflict with the same firm's aesthetic furniture prints. Little is to be gained from looking at longcloths, shirtings and flannelettes through windows, but the cotton manufacturer with ambitions will find items to detain him before the display by Barlow & Jones. The bath-goods

WEAVING SCOTCH TWEEDS AT THE EXHIBITION.

are various, but less so than the extreme variety of quilts, woven and printed. Rose Hewitt's cotton checks and stripe for hard wear, Warrall's dyed and printed cotton velvets, Excelda cotton handkerchiefs imitating silk are not items to miss.

There is little in the British section for the interest of him who is concerned with wool-

ens. Stylish flannel and pyjama goods by Buck's, Jaeger specialties, Viyella cloths and hand made Scotch and Irish tweeds are not precisely representative of English woolen industry, be their merits what they may. Tweed weaving is to be seen being done on a loom which is said to be 240 years old and looks its age. Cloths are shown by W. Bill that have been dyed by the old formula with huckleberry leaves, sour leaves and alum, elder bark and furze blossom, dock leaves and St. John's wort, iris root, ivy and copperas

The French side offers some compensation. Here a man can absorb freely all that he cares assimilate of French style, fashion and taste. Paris in London looks more than Parisian and novelties are found all along the way to the exhibits of the plainer textiles. Dresses, furs, feathers, gloves, stockings, belts, braces, laces and millinery in more detail than could be explained in a week line the path to these regions. Effects in underwear warrantable to stop any clock, shirts one would blush to wear in the dark, floral embroidery on stockings not less than half as thick as the roses would be in nature, are all handsomely condoned by their matchless style. Something more to the point seems to be found in fabrics for furnishings shown on gilt settees and chairs. They are tapestries, hand made it appears, in silk and modern imitations of the period Louis XVI. The price—tris madere, monsieur—is $6,000 for three pieces of upholstery.

But at length one is brought up by the stand of the Roubaix Dyers' Association, from which a lesson in exhibiting is to be learned. The arrangement is one of pleatings in different colors, fan-shaped, diamondwise, in panels, columns and arches with bows and bunches for a finish. Thus to exhibits by separate manufacturers of goods made in Roubaix and arranged with an astuteness that would have done credit to Connecticut. Roubaix—Bradford's rival in the dress-trade—has filled its cases with Bradford speciaities. Famous for habit cloths and other plain self-colored fabrics from short wool, it has put them in the background. Mohairs and worsted tweeds, Italian linings and armures, striped lustres and figured goods, in short all that Bradford would have shown had it done justice to itself, have been appropriated by the rival. The only impression possible to be drawn from the exhibits is a misleading one. Roubaix shows not what she does, but that of which she does not sell much at present.

The Roubaix Cotton Spinners' Association have emblazoned the arms and motto of their city in colored cotton cops. With the aid of hanks they produce a realistic laurel bough, and a beehive and honeycomb in grey cotton filling are likely to be remembered. The Woolcombers' Association of Croix, Roubaix and Tourcoing show graphically that they comb wools from all the world. And there is a formidable exhibit of woolens from Elbeuf. The colorings are for winter and there is more variety than style. Sedan tweeds follow Yorkshire rather than Scotland and from both places come heavy goods of melton, beaver, carriage and venetian type. The fingers itch to estimate their quality and weight, but there is glass in the way. You might fairly say that these cloth exhibits are overcrowded, that with fewer and better selected goods a deeper impression might have been created.

But for the best example of the art of exhibition turn to the section Soieries de Lyon and in especial to the collection of Jarosson, Laval and Bornet. The pavilion has an air all its own for Lyons has sent its richest and best and has arranged its display with a care not exceeded by the first Parisian dressmakers. Plain and black silks are subordinated to fancies and from the exhibit no hint that Lyons lives chiefly by plain goods could be drawn. Matt satins, moires, taffetas, are shown, and there are three-shade shot chameleon silks along with Paisley prints on mousseline, ruchings and a few warp prints. All these appear in colors of great delicacy, exquisitely graded, but Lyons knows how to make a show and sends many more elaborate pieces. Note the hand-painted brocades, the cloths of gold, the crepe de chine, and especially the gauze with woven velvet borders of which a loom turns off only 30 inches a day. See the gold and velvet cloth worth $10 to $14 per yard and Chatel, Tassinari's $10,000 worth of tapestry, worth $40 to $60 a yard.

There are 50 or more colors in it, the design repeats every three to five yards and the makers had to spend from $500 to $1,000 simply upon the cards for each design. It is a good day's work to turn out four inches.

THE NATIONAL ASSOCIATION OF COTTON MANUFACTURERS.

The program for the meeting of this association on Sept. 29-30 at Saratoga, N. Y., includes the reading of papers on the following subjects:

Commutator Grinding.
Cotton Fiber Substance and its Properties.
Importance of Forest Preservation for Manufacturers.
Low Pressure Steam Turbines.
Measurements of Power and its Transmission.
Meeting of the International Federation of Master Cotton Spinners' and Manufacturers' Associations at Paris, June 1-4, 1908.
Modern Methods of Dyeing in Cotton Mills.
Positive and Accurate Humidity Controlling Devices.
Relationship between Cones and Fliers upon Cotton Roving Frames.
Standard Specifications for Staple Grey Goods.
Textile Fabrics and their Consumers.
Textile Mill Power Plant.
Textile Tests in Europe.
Two Hundred Varieties of Cotton Fabrics.
What is a Plain Cloth, What is a Plain Weave?

The call for the meeting states that the program has been arranged with fewer papers than usual, in order to provide ample time for discussion, and authors will read papers by abstract, if necessary. All members will have sufficient time necessary for discussion.

It is hoped that the discussion of papers will be free, whether the speakers confirm or disagree with the views of an author.

The President will give the floor in advance to those who give notice to the Secretary that they will discuss a paper.

A special train of parlor cars will leave the South Station, Boston, at 10 a. m., Monday, Sept. 28, stopping at Worcester, Springfield, Pittsfield and Albany, arriving at Saratoga at 5.55 p. m. Trains will leave the Reading Station, Philadelphia, at 12 noon, Grand Central Depot, New York, at 3.10 p. m., and Utica at 3.10 p. m., Sept. 28, to arrive at Saratoga in time for dinner. The service from New York will be in special parlor cars attached to the regular train. The sessions will be held at the United States Hotel, and the transportation arrangements will be in charge of Raymond & Whitcomb, who will supply tickets and information from their Boston, New York and Philadelphia offices. The program includes excursions to Lake George and the General Electric Company's works at Schenectady.

THE IMPRESSIONS OF AN AMERICAN ABROAD.

BY WILLIAM H. DOOLEY.

The writer spent the months of June, July and August visiting the textile schools in Holland, Belgium, Germany, Switzerland, France, England, Scotland and Ireland. A striking fact that impressed itself on me as I went about visiting schools and mills was the secretiveness of the foreign teacher and manufacturer to the American and to the American only. They were anxious to ask questions but not over willing to supply information.

The German manufacturers attach great importance to textile schools. They believe that they are the main pillar by virtue of which the German textile industry maintains its power in the foreign market.

All the schools have large staffs of lecturers and assistants. They have ample accommodation for lectures and class work in textile and allied subjects. They are equipped with the most modern laboratories, machinery, and apparatus, which are kept in a high state of efficiency. They are furnished with good libraries and reading rooms. The fees are moderate, the usual charge annually being $50 for a day course of 44 hours per week. There were about 800 day scholars in the seven schools I visited, although the entrance examinations are severe. The fees charged to foreigners are almost prohibitive, being usually five times the amount charged to German students. (Compare this to the fees charged foreigners in our textile schools.) The fees for evening and Sunday morning classes of 6 hours per week, are from $4 to $8 annually.

The products of the school are nearly always sold, and in many cases the material is supplied by the trade in a raw or partially manufactured state to be worked up in the various departments. The actual conditions

of the factory are thus observed in the school as far as possible.

In many schools it was noticed that the hand looms are used for experimental work, but on the power looms the students are largely restricted to weaving standard styles.

HOLLAND.

Enschede is the center of the cotton textile industry of the Netherlands and the home of the well known Enschede weaving school. The three years' course in this school consists of practical weaving, dyeing, bleaching, and related subjects. The school has an excellent equipment of instruments, models, engravings and charts. Evening classes are established for those who work days. The textile workers go to work at 6 a. m., return for breakfast at 8 and work until 7 in the evening.

In Bradford, England, there is a strong movement on foot to admit boys into the textile schools at 14. The manufacturers in this great worsted center believe that the boy should begin his work in the mill before he is 18. Hence his technical learning should be obtained before that age. This is in line with the movement in Lawrence, Mass., where it is proposed to have the textile course for the boy between 14 and 17.

All the textile schools abroad have excellent testing laboratories, well equipped for research and experimental work. They are carrying on tests and researches of a practical and constructive character. These schools publish monthly bulletins giving the result of the investigations.

While in Manchester I visited the Testing House and was received cordially by Mr. Lester. This is a well equipped laboratory for conducting research and work practical tests for the industry. It has proved of such value that there is a movement on foot to broaden the scope of its work so it will include tests of building materials, etc. Mr. Lester said he and his assistants were very busy just now and were usually so when the market was dull. When the market was good he had very little work to do. It seems as if the buyers were anxious to find fault with goods in order to break the contract during dull seasons.

THE FIRST COTTON MILL IN NEW YORK STATE.

The first cotton mill to be operated in the state of New York was built at what is now known as Greenwich about the year 1800 by William Mowry and Job Whipple. Mr. Mowry had previously been employed at Pawtucket, R. I., by Samuel Slater in building and operating the first cotton mill in America. After Mr. Mowry had worked a number of years for Mr. Slater and become versed in the business, he asked his employer to admit him as a partner. Upon meeting with a refusal, he resigned his position and went to Greenwich, then called Whipple City after Job Whipple, who owned a good water power and operated a flouring mill at that place. Plans were at once made by Whipple and Mowry to build a cotton mill. Mr. Slater having heard of the proposed enterprise, wrote to Mr. Mowry offering to admit him as a partner in the Pawtucket business on condition that he abandon the project at Whipple City. Mr. Slater evidently feared that the product of two cotton mills would glut the American market and deprive the Pawtucket mill of the monopoly it then possessed.

It was now Mr. Mowry's turn to reject a business proposition from Mr. Slater. This he did without hesitation and that his refusal was not prompted entirely by business reasons may be inferred from the fact that shortly afterwards the wedding of Mr. Mowry and Lydia, Mr. Whipple's daughter, occurred.

After operating the mill at Whipple City with great success during the war of 1812, Mr. Mowry decided to visit Lancashire, England, and obtain information regarding the most improved processes of cotton manufacturing in that district, which was then, as now, the center of the world's cotton trade. He sailed from New York on July 9, 1816, on the packet ship South Carolina for Liverpool, taking with him a machinist named Wild, whose home was at Hudson, N. Y. After a passage of 23 days they arrived at Liverpool, where they were very courteously received. They met a very different kind of

a reception when traveling through the manufacturing districts and attempting to gain admittance into the mills. Their requests to inspect the interior of the English mills were refused with a force that made up for the lack of elegance. To see the inside of these mills was the object of their long and expensive journey. Facing the possibility of failure, they grew desperate, and finally resolved to take the chance of being forcibly ejected, by entering one of the mills without permission. This they did and were overjoyed at discovering in the first room they entered a double speeder in full operation. Meeting with no interference the two Yankees proceeded to give the machine a searching examination. After a short time and while they were still engaged scrutinizing the mechanism, the overseer entered the room. As soon as he discovered Mr. Wild examining his machinery, there were two wild men in the room, and the Englishman lost no time in hustling the Americans to the door, showing no inclination to encourage their desire to gain useful knowledge. Mr. Mowry was in despair, but Mr. Wild assured him that he had seen enough to enable him to duplicate the speeder. Upon their return home Mr. Wild built and installed a double speeder in the Whipple mill, this being the first machine of the kind to be operated in America.

Mr. Mowry ran the mill at Greenwich with great success for many years and at the time of his death in 1845, was one of the wealthiest men in that section of the country.

GREENWICH.

Seasonable Fabrics.

DRESS GOODS.

Generally speaking the dress goods market is showing improved conditions. Like all other lines, the fall dress goods trade was very late this season. During the early part of the season the manufacturers did not receive their usual future order business. Most of the buyers held off on their orders until they visited the market, which helped greatly to improve conditions. While buyers were instructed not to buy heavily on the various lines, they were impressed with the lines that were shown and bought very freely in fancies. Reorders are already being received on the popular numbers, especially from the cutting-up trade.

The usual amount of trade has been received for broadcloths this season. The new shades of green, blue, grey, plum and smoke have sold very well in the higher priced fabrics. Fancy striped broadcloths are doing well in the new combinations of colorings.

In the fancy dress goods market shadow stripes are the best sellers. These goods are being made up in a number of attractive weaves such as cheverons, herring-bones, diagonals and pekins. Navy and brown are the leading colors. Next to the shadow stripes are the fancy cheverons which are being used very extensively for street wear. Fig. 1 shows a very attractive fabric from Wm. Isaac's collection, 56 inches wide at $1.17 1/2 a yard. Fig. 2 shows a 54-inch fancy from R. E. Byrom which has been a very good seller.

Hard twisted serges in qualities ranging from 65 to 90 cents a yard are selling well in the staple colors. Panamas, voiles and other staple fabrics are being used by the trade in the usual quantities for fall.

Spring and summer lines for 1909 are being shown by some of the domestic manufacturers. Prices have been reduced on these lines about 10 per cent. below last season. Self colored stripes will be favored for the coming season, while new designs will be added to these lines as the season approaches.

SILKS.

Trade has been very active in the silk market during the past month. This was caused largely by the number of silk buyers that have visited the market, purchasing their fall stocks. Most of these buyers held off their orders until they reached the market, and in some instances had not bought a dollar's worth of fall merchandise, expecting to find plenty of desirable goods waiting for

them on the shelves of the wholesalers. On the other hand the manufacturers have been going along very conservatively, not making up surplus stocks, thus causing a scarcity of desirable fabrics.

Satins, messalines and all soft, high lustered silk of this character are selling very

FIG. 1.

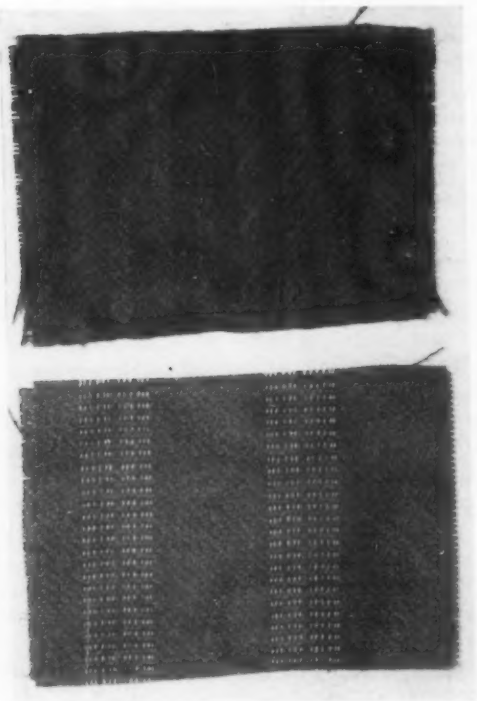


FIG. 2.

well. These goods are being made in all of the latest fall shades such as smoke, biscuit, sapphire blue, raspberry, etc. These goods are being sold faster than they can be turned out. At the present time orders are taken for delivery to be made in two to three weeks' time.

A very attractive line of fancy silks are being displayed by the different houses. These goods have sold very freely in all grades ranging from 30 cents to $1.00 a yard. Stripes continue to be favored over plaids. Shadow striped messalines in plain and jacquard effects are very popular.

Cheveron weaves are in demand and appear to be the best sellers in the fancy line. Fig. 3 shows a very attractive number made by M. C. Migel & Co. in all popular shades, 19 inches wide, at 62 1/2 cents a yard. Fig. 4 shows a 19-inch from Givernaud Bros. at 55 cents a yard.

Hair line stripes both in taffetas and messalines are very strong. These goods are also being made in some very neat jacquard effects. Pelgram & Meyer show a 19-inch

FIG. 3.

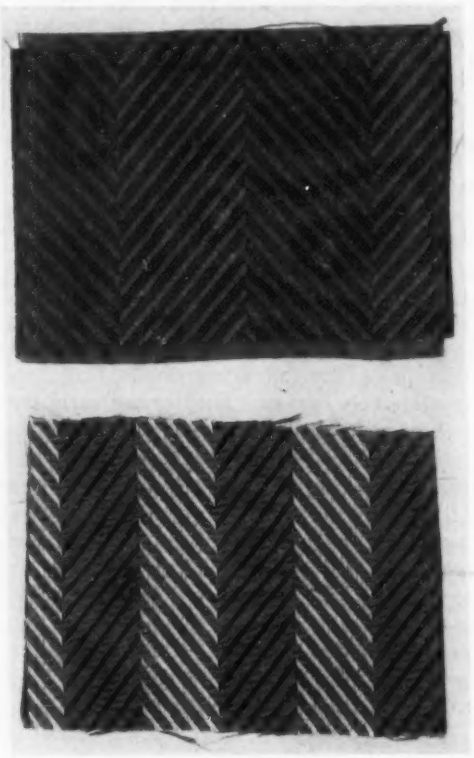


FIG. 4.

fancy hair line stripe from Pelgram & Meyer's collection at 72 1/2 cents a yard which has taken very well. Jasper effects are also coming in. Fig. 5 shows a pattern sold by Pelgram & Meyer at 72 1/2 cents a yard, 19 inches.

There have been a number of requests for Persian designs for waistings. Fig. 6 shows a pattern in 19-inch goods from Samuel Eiseman & Co. at 67 1/2 cents a yard.

A number of buyers who did not place their orders for black and colored taffetas earlier in the season are placing them now. These orders consist of full ranges of colors, showing that the trade in taffetas has not given way to satins, etc. At the present time black taffetas are being offered at very

FIG. 5.

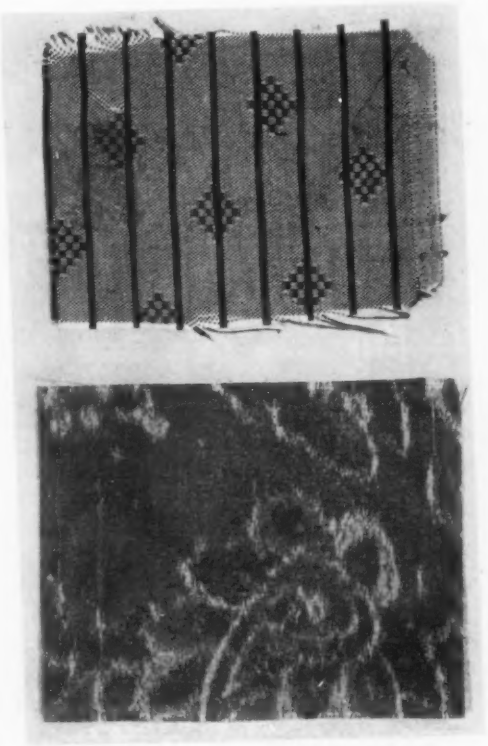


FIG. 6.

low prices. In fact they are in some instances offered at less than the cost of manufacturing.

COTTONS.

The conditions in the cotton goods market continue to show an improvement, although buyers are operating conservatively. A steady demand has prevailed for staple brands of 4/4 bleached and unbleached cottons. In some instances prices have been advanced. Fruit of the Loom has advanced to 8 1/2 cents a yard; Lonsdale 4/4 bleached, to 8 1/4 cents.

The demand for wide sheetings and sheets and pillow cases has been very active. Prices on these goods have not changed. Some of the manufacturers of these lines are oversold and cannot make deliveries within 4 to 6 weeks.

Apron ginghams and standard prints are selling very freely. Prompt deliveries are being made on ginghams. Most of the houses have good assortments to select from.

Heavy weight goods such as blankets, outing flannels and fleeced goods are in demand with the usual fall trade. Side bands are coming into favor. Requests are being received for these goods in all grades of fleeced fabrics in the latest fall shades. Persian designs continue to be desirable.

Printed Galatea cloths are in strong demand in all of the new fall effects. These goods are being shown in a very attractive line of colorings that has appealed very strongly to the trade.

Mercerized poplins, repps, etc., continue to be favorites. These fabrics are selling very well for the fall trade. Some of the larger buyers are placing their orders for the spring of 1909.

The manufacturers of woven cotton dress goods are placing some very attractive novelties on the market, including neat effects in side bands. Cotton dress goods are selling more freely since they are being made with the new heavy wool finish.

A great many orders are being placed for India linons, Persian lawns and other staple white goods for spring. These orders are not as large as last season, but the manufacturers feel confident that they will book their usual business before the season's end. Prices have been reduced about 20 per cent. from last season's opening quotations.

Jacquard effects are in good demand. In the white goods market the trade has taken to heavier weight fabrics. Cross-bar lawns are not selling very well for either immediate or spring deliveries.

Converters are receiving a great many orders for their lines from both the cutting up and the retail trade.

CORRESPONDENCE AND NOTES

Upon Textile Topics At Home and Abroad.

DESIGNING AND WEAVING DOUBLE PLAIN CLOTHS.

BY A. R. FOSTER

(Continued from August.)

The second method of stitching two plain cloths together (filling stitching), is shown in Fig. 14. In this case a back filling pick comes up and passes over a face warp thread, as shown at A, or what amounts to exactly the same thing, a face warp thread passes down and under a back filling thread, as shown at D. The marking of this method of stitching is shown somewhat differently on point paper. While in Fig. 13 the binding was formed by what was marked as an extra warp lift, in this case a warp thread, which would normally be raised, is depressed. If back reference is made to Fig. 7 it will be remembered that in addition to the intersecting of the threads of the two cloths, the face threads are always over all the back picks, but to form the binding illustrated in Fig. 14 this rule must be partially broken. As seen in the transverse cross section, B, in Fig. 14, the third face warp thread would normally be under the face pick although over the backing pick, while as here given it comes under the latter by failing to lift, as shown by the outlined blank square on the third face end and first back pick at C. Again, and merely as a means of comparison, this is the only binding given both at C and in the design, E, in which the stitch is defined by the arrow.

PLACING BINDINGS.

Although the two classes of bindings just mentioned can be used either alone or together in almost any kind of double cloth, they must not only be correctly made but properly distributed. In Figs. 13 and 14, and especially in the section, B, of these illustrations, it will be seen that the binding does not interfere with the outward appearance of the double cloth. In other words, it takes place inside, between the two fabrics, and is invisible to the eye. In each case the stitching float comes beneath a face float and over a back float and does not interfere with the

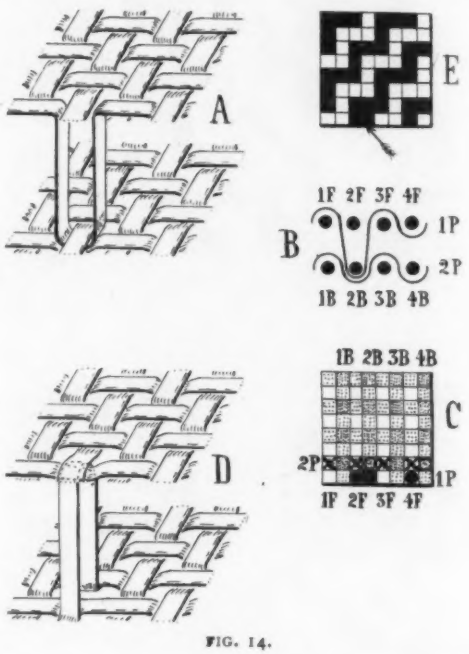


FIG. 14.

weave on the outside. With many double cloths great care and sometimes skill is necessary to maintain this arrangement, but with double plains it is almost impossible to make a bad stitching so long as the binding float is limited to a float over one thread only at each intersection. This applies to both warp and filling bindings while on the other hand it is impossible to make a good or invisible binding if this short length of float is exceeded.

It is important, however, that the bindings are distributed properly, not only on account

of a faint cockly appearance irregular distribution may cause, but because each stitch demands a little more length of warp on the thread affected, so that a thread which has more than its share of stitching becomes tight and weaves badly. If it is desirable to stitch, say, in stripe order, then a separate warp beam should be provided for the stitch-

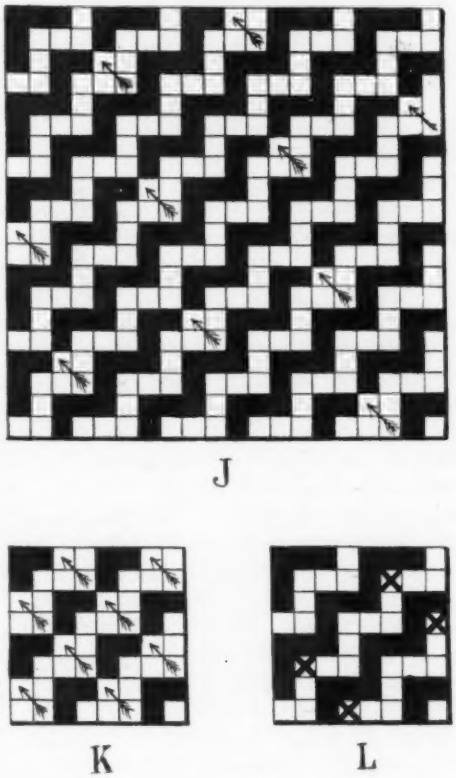


FIG. 15.

ing threads, but as stitching is a poor method of obtaining cut effects in double plain cloths it is rarely used in that order. In Fig. 15 are given three typical methods of stitch arrangement, although these do not by any means exhaust the number. At K is shown a filling stitch arranged as closely as possible and much closer than is required except for special purposes. At L is shown a warp stitch arranged on much used lines, while J gives a filling stitch arranged in ten satin order. The filling stitches might be replaced by warp stitches or both kinds of stitches used, but in these three examples it will be seen that the bindings are distributed equally throughout the design and that each thread carries an equal number of stitches. This, of course, does not refer to the back warp where filling stitching is used or to the face warp where warp stitching is used, but to the set of threads affected. A regular distribution which extends to both face and back threads can only be obtained by using both warp and filling bindings, that is, the stitch shown in Fig. 13 along with the one shown in Fig. 14. It is, however, only in cases where both the face and back cloths are woven from the same warp beam that this is even desirable.

The choice of the stitch, that is, whether filling or warp stitch, depends chiefly upon the cloth being woven. If both face and back

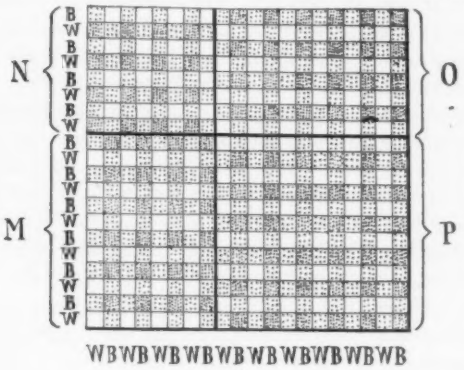


FIG. 16.

fabrics are of the same or similar counts and quality in both warp and filling, it is immaterial which kind of binder is used. If, however, the back warp is composed of coarser or rougher yarns it is not advisable to stitch with the warp, for in such a case the face pick would draw up the thick warp of the back cloth and probably cause it to show on the face. On the same lines, it is not the custom to use a filling stitching if the back filling is thick or of poor quality as it would in the same manner be inclined to show on the face and even if not actually visible would give a rougher appearance to the cloth. If both the backing yarns are such as to be un-

desirable on the face, it is best to insert stitchings as far apart as is consistent with the weight and setting of the cloths.

ORNAMENTATION OF DOUBLE PLAINS.

There is such a wide scope for the ornamentation of double plain cloths by simply changing the position of the cloths or the threads composing them, that only the basis can be given here. As mentioned previously, also, the interchange of position can also be substituted for bindings. Fig. 16 will serve to show the principle on which both ornamentation and stitching are effected, there being given the prepared point paper for the check given below it. This latter consists of a square of solid black, N, two rectangles of solid white, O and M, and a square of black and white mixture, P. The cloth is warped and woven, one thread black and one thread white alternately as marked on the edges of the prepared point paper, while the backing threads are marked by a stippled effect which would be replaced by pencil marks or a faint wash in practice. It will thus be seen that in the squares allotted to the white parts, M and O, that both black filling and black warp come on the threads marked, which would throw white filling interweaving with white warp on the face. In the same way the portion allotted to the black square, N, has the white filling and white warp marked for backing so as to throw a cloth of black filling interweaving with black warp on the face. The mixture of black and white is then obtained in the part, P, by marking black warp and white filling as the back and leaving white warp to interlace with black filling on the face, This last effect could also be obtained by interlacing the black warp with the white filling if the point paper had been so marked. On this prepared point paper the double plain weave is painted, as shown in Fig. 8, and bindings can be inserted as previously shown if desired. For this design, however, they would not be necessary, as with every change of color there is a tight binding line. With larger portions of each color a regular system of stitches would have to be added, unless it was desired to have the cloth showing a quilt or crepon appearance. The principle shown in Fig. 16 can be extended either to tiny stripes or large jacquard figures, it simply being a matter of deciding which colors come up and marking the point paper accordingly.

IN THE CARDING AND SPINNING ROOMS.

BY B. M. PARKER.
Assistant Professor in Textiles, West Raleigh, N. C.

In running the carding and spinning rooms of a cotton mill many small points require care and attention. Do not make the mistake of thinking that the defects that seem the largest are the ones that will give most trouble. The numberless little points that are not so easily noticed are the most easily overlooked. If neglected they will have a damaging effect upon the cleanliness or evenness of the yarn.

The pickers, as all know, are supposed to open and clean the cotton thoroughly and deliver it in the form of a lap of suitable size and weight to be used on the card. An uneven lap will cause an uneven card sliver and hence irregularities in the size of the yarn. Especial care should be taken to keep the laps up to standard weight and for this reason all finished laps should be weighed and if not the correct weight, rejected. See that the laps are of even thickness across the cages and throughout their entire length. It is possible to keep the yarn regular in size if the laps are regular. If the cards have to use laps of varying weights, the yarn spun will be of different counts.

Keep the picker laps clean. The card is often supposed to take out of the cotton all the impurities left in it by the pickers, but the card can do only a certain amount of work and, if the picker laps that reach the card are dirty and full of neps, the card sliver will show the same defects and the yarn will be imperfect. The expression, "poor carding," is often used when examining a poor grade of yarn when, in reality, the cause may not be so much the poor work on the card as the poor work of the pickers.

The air current in the picker, together with the setting of the grid and the speed of the beater, determine the quantity and quality of the waste made. The air current should be strong enough to carry all the

good fiber forward to the cages and at the same time, not of sufficient force to carry along with it the motes that the beater is trying to knock out. The only true guide to follow is the appearance of the waste under the grid and the amount of trash still left in the lap. Adjust the setting of the grid and the force of the air current so as to give the biggest percentage of waste with the least amount of good fiber. Any fiber thrown down here as waste is usually so much stock lost as it is seldom that it is worked over again.

Where a good, clean yarn is of importance, the cards must deliver and clean sliver. A careful examination of the web, as it leaves the doffer, will show the quality of carding done. The cleaner the web, the cleaner the yarn, as a web full of motes and neps will produce a yarn of the same character. A careful examination of the waste made on the card will be of advantage. Too many motes in the web and not enough under the mote-knives will immediately suggest the remedy. A neppy web can often be improved by closer settings on the flats, making more flat strippings, or by increasing the amount of screen waste under the card. Be sure the card clothing is in good condition and properly ground and that the card is not crowded too much.

Sometimes neps are formed in the handling of the cotton in the picker and card rooms. This may be due to wrong setting of feed rolls on the picker, working the cotton while damp, dull or bad card clothing, trying to get off too much on either machine, cards not stripped often enough, and too high speed.

Both the card and pickers are cleaning machines, neither being sufficient by itself. Only when both are working to the best advantage, each doing its part of the whole work, will the best results be obtained. Too often the desire to get the cotton through the picker room with as little delay as possible without giving any special attention to it or attempting to do the cleaning that should be done there, is responsible for the bad appearance of the yarn. Bearing in mind that, after leaving the card, no further attempt at cleaning is done, the importance of doing the best work on both machines is readily understood.

The drawing frame is a simple machine to use and easy to take care of, but, like everything else, needs care and attention. If using the common leather rolls, which many prefer, keep them in good condition. They need frequent recovering and revarnishing, oiling, etc. A bad leather roll will cause uneven drawing and cut sliver. The condition of the sliver depends greatly upon the condition of the leather rolls. Often a wrong setting of the rolls will give bad sliver. The same can be said of too much draft, wrong proportioning of the draft, too little weight on rolls, leather rolls not set true with fluted rolls, too high speed of frame, and leather rolls binding, thus not revolving freely.

The setting of the rolls and the amount of draft and speed that a staple will stand, depends upon the character of the cotton being run and the bulk of cotton entering and leaving the frame. If metallic rolls are in use, they will require attention and care, but are not as apt to give as much trouble as leather rolls. Small, solid impurities are apt to become wedged in between the flutes and will give bad results unless taken out. A good scrubbing every week or so with whiting and card clothing, rubbing lengthwise of the rolls will keep them bright and clean and in good condition. If the flutes become burred or battered a small three-cornered file is very handy in removing the bad places and keeping them from cutting the fiber. Any damage to the sliver here will show up in the roving and yarn, hence keep everything in perfect running order and be sure that the sliver is coming out in good condition.

The proper working of the fly frames is by no means easily obtained. Assuming that the sliver reaching the slubber is all that can be desired in point of cleanliness and evenness, let us look over a few points that will have a tendency to make bad roving. The first thing that naturally suggests itself is the rolls. Everything said in connection with leather rolls on the draw frame will apply to the care and handling of the rolls on the fly frames. Anything that will

obstruct the regular, even drawing of the cotton on these frames will give bad roving, whether it is the condition of the rolls, setting of rolls, weighting or speed.

Twist is put into the roving for the purpose of holding the fibers together and giving the roving enough strength to be pulled off the bobbin. Too little twist causes weak roving that will give trouble in the creel of the following frame. Too much twist will cut down the production of the frame, make the roving draw hard and irregularly on the next frame, wear out the leather rolls faster and cause an increase in the amount of breakages, waste and loss of time, due to the roving often refusing to draw under the rolls.

The tension is another point that requires care and attention. A decided change in atmospheric conditions will render a change in the tension on the frames an absolute necessity. Not enough tension is readily detected and very seldom gives much trouble, but running too much tension, unless remedied immediately, will cause endless trouble. The strain thus put on the roving, if not enough to cause it to break down entirely, will cause thin places to be formed all through it. Because the ends stay up these thin places are often not noticed and will cause a large number of breaks in the creel of the following frame, causing waste, loss of time and often making singles. If they hold and pass into the rolls they will cause thin, uneven places in the roving and yarn. The proper tension provides for just enough excess speed of the bobbin over the front roll speed to keep the ends up and make a firm, round bobbin. Any more than this amount, in addition to being absolutely useless, will invariably put such a strain on the roving as to cause thin places. Do not make a change in the amount of twist run to prevent breakages on the front of a frame until you are positive that the breaks are not due to excess tension. The more twist in the roving the more strain it will stand before breaking, hence the greater the chance of running heavy tension and causing thin places. It is also bad policy to let the operatives run the tension to suit themselves.

Singles are an ever present source of trouble. More roving is wasted on this account than from most any other cause. If the operatives are not careful in creeling, a number of bobbins will run out and not be pieced up till after the end has passed under the rolls, the result being a roving on the front of the fly frame only half as heavy as it should be. This is spoken of as single roving or singles and may be a few inches or several yards in length. Whenever this happens the tender should stop the frame and pull off the single roving. But how many do it? What is the result? The single roving goes to the next frame, breaks out in the creel, causing loss of time, waste and possibly causing singles there, or passes on under the rolls and causes a light roving, several numbers higher than the standard, or going into the yarn causes a weak, thin place. This yarn is weak and will give trouble by breaking, or, if used for filling, will cause a thin place. The habit of piecing the ends of roving while creeling a frame and allowing an overlap to occur in the pieced ends will cause heavy places in the roving which will finally make heavy places in the yarn.

All bobbins with single roving reach the spinning room and detected, are taken out and thrown aside for the bobbin boy to collect and pick over. This means extra labor and a large amount of cut roving made. In many cases the whole amount of roving left on the bobbins is simply cut off. Where there is only a small amount of roving remaining on the bobbin it is often easier to do this than take the time and trouble to pick the roving. This sort of waste is, to a great extent, unnecessary. The amount of roving thus cut off and thrown back, in a mill of any size, is enormous. It is impossible not to have some of this waste, but it is not necessary to have as much as is often made. In cutting the roving off the bobbins, many fibers are cut in halves. The money it has cost to bring the cotton from the bale to this stage of manufacture is lost, to say nothing of the additional expense in handling and taking care of the waste and in getting it into shape to use again.

The bobbins made on a fly frame should contain as much roving as it is practicable

to get on them. Run the traverse the full distance and set the stop motion to act when the fliers are filled by the roving on the full bobbin. This will give less doffing, less creeling on next frame, consequently will reduce the time lost by doffing and lessen the chances of breakages and singles on the next frame, due to less creeling. Another mistake often made is trying to run the frames too fast. This increases the percentage of breaks and may give bad drawing.

If the roving sent to the spinning room is clean and even it will make a good yarn if properly handled. Uneven, dirty roving will give uneven, dirty yarn. Everything in the spinning room should be kept clean and free from oil and accumulations of fly and lint. The fly hanging to the top clearers, thread board, guides and separators often catches in the yarn and finds it way into the cloth, making a bad place, or gives trouble by breaking out before this stage is reached.

The adjustment of the rolls, the proper setting of the rolls and spindles, the size of travelers and rings, the condition of the leather and fluted rolls, the free and easy running of leather rolls, the tension of the bands, the traverse of the rail, the amount of draft, the setting of the leather rolls to the fluted rolls and the speed of the frames are things that will have their effect on the quality of the yarn produced. All the frames should be overhauled at least once a year if not oftener, to see that all parts are in proper adjustment and good working order. A great deal of care should be given the leather rolls. Look over them often to see that they are in good condition. When replacing old worn rolls by new ones, always put the new rolls at the front, moving the older ones to the back. Run all the yarn on the bobbins that the rings will carry. This means fewer doffs, consequently less loss of time. Make the filling bobbins as large as the shuttle will take, thus having less doffing, loom stoppage and fewer chances of making thin or bad places in the cloth.

"Keep the belt on the tight pulley" is a phrase often used and is good advice. Be sure the "tight pulley" is driving a frame that is working under the very best conditions.

A PROCESS FOR MAKING WORSTED YARN OF UNIFORM SIZE.

An evening attachment for worsted drawing machinery, recently patented, is designed to produce more uniform yarn than is now possible with the ordinary worsted equipment. The existing difficulties and the operation of the new evener are described by the inventor as follows:

In the manufacture of worsted and kindred yarns the aim of the manufacturer is to produce a yarn of uniform weight for a given unit of length. These yarns are known to the trade by numbers, a given number meaning so many yards per pound on which basis they are sold. It is of interest, therefore, that when selling or buying upon a specified order the manufacturer supplies what is called for and the purchaser obtains that for which he pays.

According to present wool processes the manufacturer falls short of accomplishing his aim with the result, from a commercial standpoint, that a loss is entailed either upon one side or the other. If what is known as 36s is ordered, which sells at a given price per pound, although the manufacturer ostensibly may supply that weight, the order is apt to include a lighter or heavier weight; if the former, the loss is upon the manufacturer; if the latter, upon the purchaser. This matter assumes additional importance from the fact that a mill manufacturing woven cloths desires that its products shall be what they purport to be in weight, and that a fabric of 36s, for example, should be of that weight of yarn and not lighter or heavier.

When it is considered that a single mill may order ten thousand pounds, or more, a week, the difference in money value one way or the other aggregates a very large amount. The reason for this variation in weight of a given standard of worsted yarn is due to the fact that at present dependence is placed upon the skill of an operator to average the slivers as they pass through the gilling process. Such method followed by two different operators will not be the same within a wide range. However skilful the operator may be it is practically impossible to deliver to the drawing frames a sliver of

uniform weight per unit of length, and consequently the final spun yarn will vary in weight. According to the present invention this guess work method of averaging slivers is eliminated by the use of a sliver-evening mechanism between the usual combing and drawing operations.

The basis of perfect wool spinning is a perfectly uniform material upon which to work, and every step taken toward the production of such material tends to an advance in the art and is of vast commercial importance. The wool fiber is a tube built up of layer upon layer of scales, the number of scales bearing a fairly direct relation to the fineness of the fiber. No other textile industry has to deal with a raw material so sensitive and so easily injured, wool fiber being more sensitive and much sooner injured than any of the vegetable fibers as cotton or flax, and the tendency should be to maintain its natural softness, strength and elasticity unimpaired. Wool is commonly characterized by its fine, soft, curly nature, the curliness being due to the spiral structure of the filaments and is one of its recognized and important characteristics. Another valuable characteristic of wool is its elasticity which gives it a softness to the touch which is retained in the manufactured goods. Closely related to this is the strength of the fiber, wool fiber being fully one-fourth stronger than cotton.

The three main classes of wool on the basis of the staple are (1) carding or clothing wools in which felting qualities are desired, (2) combing wools in which length of staple is required and felting qualities not desired, used for hard spun non-felting worsteds, and (3) miscellaneous, sometimes called carpet or blanket wools, long, strong, coarse wools used for carpets, blankets and coarse clothing.

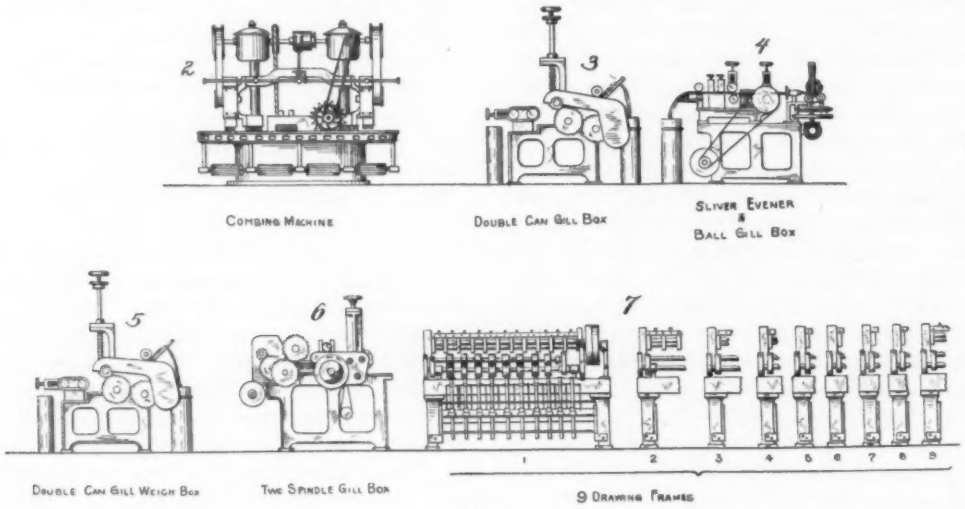


FIG 1.

The present invention primarily relates to the production of worsted yarn. The first operation in the series of processes is the sorting of the wool in which the exigencies of the manufacture determine the mode to be followed. After this comes the scouring, the purpose of which is to cleanse the wool of its yolk, natural grease and dirt. Much depends upon this, as without proper scouring of the wool it is impossible to card it properly, as the wool will not open freely. The wool is then passed through a drier from which it emerges in tangled masses in a more or less moist condition. It is then delivered to the card.

The carding of wool to some extent differs from that for any other textile manufacture and proceeds upon somewhat different lines. Carding for every other industry aims at

laying the fibers parallel. With wool the aim is to open the material fiber from fiber and to present it in a perfectly loose and thoroughly open condition without leaning towards any artificial arrangement. Owing to the want of mechanism to distribute or equalize any inequality due to a fault in the carding, such operation assumed great importance in the woolen industry. In fact, in no other textile industry is the carding of the same importance and required to be done so uniformly as it is in the wool, and in no other industry has any irregularity such disastrous consequences. When the carded wool is made into a thick sliver there is no artificial arrangement of the fibers and the ends are loosely embedded in the bulk.

From the cards the sliver passes through condensing rolls and is wound into a ball. About eight or more of these balls are then put through a washing process to remove the oil which was applied to the wool preparatory to carding, the wool after drying being passed through condensing rolls and emerging in the form of a single sliver. The slivers from the back washing are in some mills run through a gill box before being balled for the combing machine. About twenty of these balls are then placed on the combing machine. The flat webs passing through the combs are drawn in a single sliver which is wound into a ball or run into a can. The purpose of the combing is to remove noil and dirt and is the final cleaning operation preparatory to gilling.

In making woolen yarns the wool is simply carded and loosely spun; in making worsted yarns the wool is combed, gilled, drawn, and twisted until it becomes very hard. In making woolen yarns a short stapled wool may be used and a fiber having good felting qualities is preferred. The opposite characteristics are sought in wool to be used in the manufacture of worsted.

In the production of worsted yarns the first operation after combing is that of gilling, the object of which is to level the fibers and lay them parallel. The machine by which this is accomplished consists of a pair of feed rolls which catch the wool, and a pair of drawing rolls which draw it forward over steel bars, called fallers, covered with projecting steel pins. These machines are generally used in sets, each successive machine having pins on the fallers finer and more closely set than the preceding. In operation there is a steady and constant drawing of the wool away from the feed rolls and through the teeth of the fallers. The product from each gill box is condensed into a sliver which is received in cans or rolled into a ball. After the combed material has been gilled it is put through the drawing frames and then spun. The spun yarn is rolled, warped, beamed, sized or otherwise prepared for weaving.

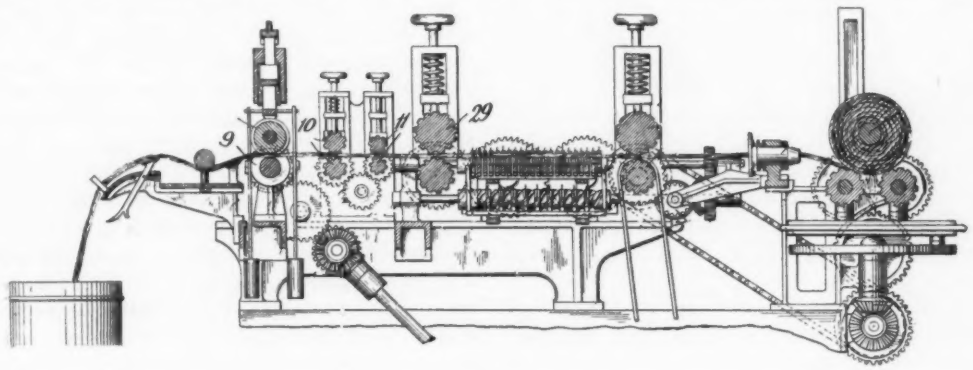


FIG. 2.

The desirability of an evener mechanism in worsted processes has long been felt and it is claimed that by the machine herein described that want has been met as it is well

adapted to the peculiar conditions obtaining in such processes.

Fig. 1 illustrates several of the machines employed in a mill for the production of worsted yarns, a sufficient number of these machines being shown to explain the place occupied by the sliver evener in the series of operations; Fig. 2 is a central vertical section partly broken away through a combined sliver evener and gill box.

The several machines illustrated in Fig. 1 are of known construction except the combined sliver evener and gill box and only the latter need be described. The sliver from the card is balled and after the back washing the wool passes through a combing machine to remove noil and dirt, and in some cases through a gilling and balling operation preparatory to combing. The slivers from the combing machine are then passed through several crossings and redrawings in gill boxes in order to lay the fibers parallel, and by running several ends into one to reduce as much as possible the thick and thin places to produce a level yarn.

Four gill boxes are employed through which the slivers are passed as follows: About thirty ends from the combing machine are drawn through a double-can gill box. Eight or ten ends from the first gill box are then drawn through a ball gill box, the resulting single sliver being rolled into a cylindrical ball about nine inches across. From eight to ten ends from this latter gill box are then run into one through what is termed a double-can gill weigh box. It is at this point that the operator by introducing a greater or less number of ends, and by close attention to the slivers with respect to thick and thin places, attempts the production of a sliver which shall approximate toward some degree of uniformity in weight. Experience is the only guide and at best it is mere guess work and wholly unsatisfactory, it being impossible by such method to produce a sliver, and consequently a yarn, of uniform weight. The results are shown by variation in a yarn of given count of anywhere between five and fifteen per cent. in weight.

The slivers from the third gill box are received in cans which are weighed and two or more ends therefrom, approximating the same weight, are run into one through a two-spindle gill-box. The slivers from this last gill box are wound on spools which supply the drawing frames, the number of drawing operations depending upon the count of yarn required. From the drawing frames the rovings go to the spinning frames for the final operation in the production of the yarn.

By the introduction of a sliver evener mechanism into this series of operations the averaging of the slivers as they are run through one of the gill boxes by the operator is done away with. Instead of depending upon experience as a guide with its attendant unsatisfactory results it is possible to produce a sliver for the drawing frames which is substantially uniform in weight for a unit of length. Owing to the nature of the combing and drawing operations the evening of the sliver must be effected between the two. The evener mechanism is shown between the first and second gill box, and attached to the latter. This, however, is not essential as the evener mechanism may be separately mounted. It is of advantage to locate the evener before the double-can gill weigh-box for the reason that the operator on that machine is enabled to supply it with a given number of slivers, and as each individual sliver is of substantially uniform weight the resultant sliver from the last-named machine will be of uniform weight. With this arrangement the first or double-can gill box, the double-can gill weigh-box, the two-spindle gill box, and the drawing frames remain as heretofore both as to construction and relative positions.

Referring to Fig. 2, at the back of the machine is an evener roll, 9, and drawing rolls, 10 and 11, supported in suitable bearings. These rolls are geared together and the evener roll connected with the driven member of any suitable form of variable speed motion through a shaft, 12. The evener roll, 9, is provided with a series of peripheral grooves adapted to receive without binding upon the side walls a corresponding number

of detector disks supported on studs. These parts are so constructed and adjusted that in the absence of a sliver a given disk will rest upon the bottom of the groove of the evener roll, and when a sliver is passing through the evener roll any variation thereof from a normal weight will be indicated by the rising and falling movements of the disks.

The several parts of the machine are adjusted primarily for a sliver of normal weight so that an increase above or a decrease below the normal will effect a rising or falling movement of the corresponding detector disk, the result being to automatically lessen the speed of the rolls, 9, 10 and 11, if the sliver increases in weight, permitting the uniformly rotating rolls to draw the sliver down to normal weight. If there is a decrease below the normal when the sliver enters the evener roll the speed of the roll and of the drawing rolls, 10 and 11, will be automatically increased above that of the rolls, 29, so that the amount or weight of material entering the rolls, 29, is substantially uniform under all conditions. The sliver which is rolled into the ball is of substantially uniform weight for a given unit of length, and if the double-can gill weigh-box is to be retained by reason of the necessity for another gilling operation, the operator is merely called upon to keep that machine supplied with the necessary number of ends, being relieved entirely of the work of averaging the slivers. It follows that the drawing frames will be supplied with spools from the two-spindle gill box carrying a uniform sliver, and that the rovings from the drawing frames and yarn from the spinning frames will also be uniform.

The predominant industry of Oldham, England, is cotton spinning, more than a fourth of the total number of spindles in Great Britain being in Oldham and its district, which possessed about thirteen and a half million at the end of 1905, the number in use having increased during that year by nearly three-quarters of a million. The number of looms in use was relatively small, being approximately 17,500. There are, besides, weaving mills and engineering works, chiefly engaged in making textile machinery.

ENGLISH NOTES.

(By Our Special Correspondent.)

The present position is difficult to judge because of holiday influences, but the talk is mainly of the badness of trade. More cotton cloth has been selling, but short time is still made in the mills. The grievance of some low woolen manufacturers is that they cannot keep up the over-time that has been worked for some years. Cotton spinners continue to draw dividends from past hoards and Isaac Holden & Sons, commission wool combers, break the records of ten years with a distribution of 7 1/2 per cent. Some of the sorrow is of the fat kind which is so much more supportable than the lean. Operative cotton spinners show incredulity about the losses their masters are said to be making and will not submit without a struggle to a 5 per cent. reduction proposed in wages. In Yorkshire a campaign has begun having as its advertised object the intention to secure for every woman in the woolen industry $4.80 a week.

* * *

British military authorities are gradually discarding self-colored cotton khaki and adopting mixtures dyed in the yarn. Pattern of officers' khaki with brown filling and a green or brown twist warp is sent to the offices of this journal, where it can be seen. The fabric before use is rainproofed, usually by the Millerain process. In self-colored khaki the dye is the thing and although permanent khaki is got readily on yarn the cloth looks reedy and is not approved. To get the fast color by piece-dyeing which withstands sun, perspiration and the "dhobie" man is not simple. The latter is the Hindu launderer who in washing uniforms beats them against flat stones. Ordinary dye is literally dashed out of the garment and the tunic grows piebald.

A dye to withstand rude handling and fierce light was discovered in some way by Colonel Leemann of the Indian Army and Leémann & Gatty's khaki of which so much has been heard in America is produced more or less in accordance with his secret formula. Other dyers in Lancashire have "fast khaki"

dyes, but the dye named remains first in repute. A patent taken out nominally to protect the method has given competitors no enlightenment. The assumption is that this khaki is a chromium salt of iron deposited in the fiber by some special means. The color is proof in an exceptional degree against alkalies.

The British Army is particular about its khaki but on occasion primitive dyes have been made to serve. In the Ashanti expedition against King Prempeli the troops dyed their white ducks in a combination of coffee and disinfectant fluid and very well this color served.

* * *

The number of English factory inspectors is to be augmented and members of the present staff repeat in their new report a warning against the wearing of loose clothes and hanging hair in the mill. Some would like to make jerseys or boiler suits compulsory wear for oilers and persons working in proximity to gearing. In Huddersfield woolen mills the removal of fluff from carding machines in motion is the most prolific cause of personal injury. The objection of operatives in woolen spinning rooms to fresh air is commented on. Inspectors like to see some windows open and one inspector comments on the strange fact that no practical man comes forward with a device which would allow belts suspended across moving shafting to be repaired in perfect safety.

* * *

As manufacturers do not voluntarily pay for tests which are of no use to them, the receipts of a conditioning house are a guide to its utility. The Bradford establishment last year received $72,000 in fees, made 163,797 tests and passed bulk wool weighing 72,328,000 lbs. through its premises. Approximately 85 per cent. of the tests were for moisture in wool, tops and noils and 2 1/2 per cent. of them for grease. Less than 8 per cent. of the tests were upon yarn and about 2 1/2 per cent. were analyses of cloths. The average cost per test works out at 44 cents and this includes some charges for warehousing.

The half-time employment of children in mills in England may begin at 12 years of age, provided the child can pass a certain school examination and a somewhat perfunctory medical one. Close on 45,000 half timers were certificated last year (24,000 in Lancashire alone and some 15,000 more in Yorkshire and Cheshire). Working one

FIG. 1. FULL TIMERS IN BRADFORD MILLS.

week in the morning and the next in the afternoon, they have to attend school during the rest of the day. At 14 full-time certificates may be granted.

The employers are spinners and cotton spinners principally and it is an old cry that the spinning industry depends on child labor for its life. Delegates to the United Textile Workers' Association begin to think otherwise. Only 27 out of 213 voted against a recent proposal to raise the half-time age to 13. Probably there is no such majority in favor to be found in the rank and file of textile unionism. Poverty impels some and selfishness leads others to send their children at the earliest permissible moment to the mills. Many who are neither especially poor nor notably selfish think it right to put their 12-year-old children to work. Daring union leaders have hitherto approached this subject most warily. In particular working mothers are savagely defiant about their "rights" in their offspring.

In the Bradford mills it is found that a considerable number of full-timers are younger than 13 and attention is loudly called to the fact. The sight of these young people in clogs and shawls is amongst the characteristics of Bradford and a group on the way home to dinner is shown at Fig. 1.

* * *

For the inspection of the interested there is sent to the Textile World Record office at Boston a sample of Continental-made paper yarn. Bleached, this costs about 12 cents a pound at Antwerp and about 10 cents unbleached in a count equivalent to 3 1/2s cotton. The thread is twisted from a flat ribbon of tough and fibrous paper, is hard and wiry to handle, strong when dry but pulpy when wet. Naturally of a fawn-brown it bleaches to a cream-yellow. It varies considerably in twist and thickness and is sized heavily. Prices unbleached range from approximately 6 1/2 cents (2s cotton counts) to 15 1/2 cents (6s cotton) and opinions may differ as to what the material is good for. The thread may be liable to mildew or other tendering influences and apparently it is not the cheapest of its kind. At Calcutta there was trouble over grain-bags woven of jute and paper which split and scattered their cargo when lifted. There are dearer makes costing some 33 cents which proved too dear for the purpose of insulating electric wires.

* * *

Report says that the Erste Deutsche Ramie Gesellschaft of Emmendingen is to put up works in England to maintain its patents. The company pays 12 and 15 per cent. dividends out of its profits on ramie spinning. The Hoechst Farbwerke (Meister, Lucius, Bruning and L. Cassela & Co.) which acquired seven acres at Ellesmere Port has everything in readiness for an early beginning.

A new development in patent-law strategy is the offer of foreign patents for sale. In an engineering journal 37 are offered by different parties consecutively. It is not known that the advertisers would not agree to a reasonable price for the British rights. It is known that some of the advertisements appear as concrete evidence that the parties have proffered to comply with British law and this offer may be exceedingly useful when any question is raised of revocation. If the holder can plead lack of means to establish works for himself and can say that he could find no buyers of his rights he will probably establish circumstances that will safeguard his position.

From remarks made in public it appears that some manufacturers do not share the general enthusiasm over the bringing of foreign factories. For some the coming means more competition and the extension of German business into fields not hitherto touched.

* * *

To suit the Chinese taste various eccentricities in fancy listing are prepared in Yorkshire. False lists of mercerized cotton are sewn on black mohair fabrics and the effect of a strip a quarter of an inch wide of brown down one list and blue down the other is unquestionably to set-off the appearance of the goods. The lists are set a little way into the edge, allowing a margin of black to show outside of them. A worsted-edge woven on cotton italian linings is more like a deception upon the natives. Not so clearly so, however, as the two "saved" spots about one yard into the piece which are there to vouch that before dyeing the filling was good white worsted yarn. A little of the fabric is twisted and tied up in linen or hemp to resist dye at these points. For 54 yards the filling is what the maker chooses to use; the good white yarn is reserved, frequently, for the fifty-fifth.

* * *

In the progress of combination in the English textile trades a second stage has been reached. The uncombined are associating for self-protection. A dozen or so dyers outside the Bradford Dyers' Association have a voluntary club known as "The Fraternity." Here minimum prices as between dyers in precisely the same lines are arranged. One or two dyeing firms remain independent of it and claim special favor for so doing.

A great handicap on firms outside combines is that they are condemned to accept lower prices than the trust or alternatively to

lose the work. Agreement on level terms as to prices with the Association is virtually impossible and thus outside competition gathers strength only slowly. In the dyeing trade outsiders grow in number, but the top prices and the pick of the market are possessed by the Association which of course has the greater prestige and facilities at least equal to any other's.

* * *

The latest recommendations of Dr. Eurich, the anthrax specialist, are (a) to willow suspected wool before washing; (b) to teach the operative to identify the stain of dried blood upon raw stock of all colors. In his opinion the dust in the cardroom is less when willowing is the first operation after sorting. That procedure has rid one works of its reputation for killing several people a year; it has prevented another from having more than three cases in twenty years. Blood in the form of powder is the dust especially to be feared. Blood stained Persian and Asiatic wool should never pass the sorter—whose safety is of course provided for by grates and fans.

Rubber Warp on a Braiding Machine.

Editor Textile World Record:

In using rubber warp on a braiding machine, I find the tension to be continually changing, one warp having more tension than another. The tension is applied in the ordinary manner. Is there any way to overcome this and how is the tension applied to rubber warp on a loom?

Newport (1003).

1003: This is a comparatively simple proposition, providing the machine is built for the purpose. In order to braid over rubber successfully, it is necessary that the gear bolts be very smooth, so as to do away with every particle of friction, and that the warp guides have rollers on top for the rubber to pass over. These rollers must also work very freely, so that the rubber passes over them evenly. In addition to this, it is also necessary to have what is known as a saw tooth take-up, between the former and the regular take-up. This saw tooth take-up is driven from the regular take-off rollers by means of a chain, and runs a trifle faster than the rollers themselves. It is necessary to stretch the rubber in braiding over it, as otherwise the braid would not be very elastic. The saw tooth take-up referred to above is used to stretch the rubber, and runs a trifle faster than the regular take-up, so that the braid comes from the machine in its natural condition.

WHY SOME WOOLEN MILLS ALWAYS HAVE BAD WORK.

BY LYTTON.

Some woolen mills are always having trouble with their goods. Let us take a look through one of these mills and see what is going on. Entering the picker house we find the picker man is just getting ready to pick a merino batch of 500 pounds. The ticket calls for 200 pounds of cotton. The man has part of a bale of cotton which he finds weighs 178 pounds. He throws that in a pile in front of the picker with the remark:

"That is near enough. The boss carder is a pretty good fellow. He never kicks."

The next item is 100 pounds of pulled wool. He finds a sack that weighs 107 pounds and rolls that off the scale with the remark:

"I will put that all in as the cotton was a little short."

He weighs out the balance of the material with the same degree of accuracy, and then proceeds to spread and oil the batch. The cotton being first, he scatters it a little, leaving it in great bunches. Next comes the wool. He runs his knife down the seams of the bag, making no attempt to pull out the twine. We notice many pieces of twine going in with the wool. Very little care is taken to separate the bunches or to spread the stock evenly. Now the picker man draws part of a pail of water, pours it in a barrel, turns on the water at a water pipe which enters the barrel. When he thinks he has enough, he shuts off the water, turns on the steam, puts in a little sal soda and leaves the contents boiling. After this emulsion has been boiling a good 15 minutes the steam is turned off, the sprinkler can filled, and the man begins to put the emulsion on

the wool. When the can has been emptied of all but about a quart, the sprinkler becomes clogged so that no liquid comes out. Then he turns the can around so that he can pour the rest out, nearly all going in one place.

No string should be allowed to go in the batch. If it does not damage the goods it will knock down the card wire. Too much care cannot be taken in weighing out a batch. A variation in the proportions of different materials will cause a variation in the goods.

Mixing the emulsion is an important part of the work. A barrel should not be fitted up with a supply of water and steam for this purpose. If a steam pipe enters the barrel condensed water often comes from the pipe, and there is danger of having the emulsion too hot. Hot emulsion should never be put on wool. It makes it more difficult to get the goods clean. A tank or barrel, not piped for either water or steam, is much better. Draw the oil in a measure and pour the right amount in a barrel. Heat the water in another barrel and add a little sal soda or borax to the water; then mix with oil. The temperature of the solution should not be above 80° F. when applied to the wool. Care should be taken to spread the emulsion evenly. An irregularity in the distribution of the liquor, especially if put on too warm, will cause unevenness in piece dyed goods. Many a good dyer has lost his job for this reason.

Let us now go to the dye house. The first thing that attracts our attention is a man sitting on the edge of an empty dye kettle. Near by is another kettle filled with wool and boiling away to beat the band. We walk near enough to ask the man sitting on the kettle where we can find the boss dyer. Pointing to one corner of the room he answers:

"Over there."

Looking in the direction indicated we see a small room partitioned off, probably used by the dyer as an office. This office has a door made partly of glass. On arriving near the door we see the dyer seated quietly in a chair reading a book on dyeing. My companion remarks:

"That is what I call doing the right thing in the wrong place. He ought to read that at home."

When we get to the door we purposely swing it wide open and remark:

"We see you dye your goods in the raw stock."

The dyer steps to the door and calls out to the man sitting on the kettle:

"Say there! Get to poling that wool."

It is too late. The kettle has been boiling long enough to curl the wool into knots and make it so tender that the card will cut it up and the yarn will be tender and twitty. Many old manufacturers tell how wool dried in the sun could be spun finer and work better than the same wool scoured and dried by present methods. There is not so much danger in the scouring as there is in the drying process. It is customary to get all kinds of work done as quickly as possible. In drying wool this is no exception. The wool drier that will dry the most wool is the most popular, regardless of the condition of the wool. Sometimes we are told that the card is cutting the wool all to pieces. This may be true, but if the wool was in proper condition it would not be cut by the card. In the majority of cases a card should be set as close as possible without injuring the points of the wire. The danger in drying wool is in trying to dry it too quickly by using too much heat, especially when the wool is nearly dry.

As compared with 1906 the cotton mills of Chemnitz increased their number of spindles from 2,644,562 to 2,811,474, and their looms from 45,595 to 48,753.

During the last five years the weaving industry of Japan has shown marked progress. The number of weaving looms increased from 4,993 in 1903 to 9,259 in 1907; while the exports of cotton piece goods increased from $3,544,018 in 1903 to $9,185,493 in 1907. The production of cotton piece goods in 1907 was 80 per cent. greater than in 1903.

Questions and Answers

Under this head we undertake to answer, free of charge, to the best of our ability, any pertinent inquiry pertaining to textile matters received from any regular subscriber to the TEXTILE WORLD RECORD. Questions should be stated as briefly and concisely as possible. Inquiries pertaining to textile processes, machinery, improvements, methods of management, the markets, etc., are especially invited, as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring ,not for publication, but as an evidence of good faith.

For reply to questions that are not of general interest to readers of textile journals, such as those relating to the composition of yarns, analysis of fabrics, etc., we will charge the enquirer with the cost of the investigation.

Wrinkling of Woolen Goods.

Editor Textile World Record:

We are making union dress goods and flannels weighing 10 ounces per yard, 56 inches wide, 26 warp threads and 28 picks per inch in the goods. We fold by hand and bolt our goods, using a long table with a hand baling machine. Some of the pieces will bolt even, others will not lie smooth on the table and will wrinkle in the bolt. We dry on tenter bars. We use a steam press for finishing part of our goods, but have the trouble with goods that are not pressed at all. Can you suggest a remedy? Canton (988).

Not knowing the nature of the wrinkles, this is a hard question to answer, but there are several causes for this difficulty. The most frequent is tight listing and cockles. When the trouble is caused from the listing the cloth will bag in the center when the listings are folded together and will wrinkle when the goods are folded up. The only remedy for this trouble is to use as much tension on the press as possible when pressing the goods, that is, stretch them lengthways. This will stretch out the listing to correspond with the center of the piece. This remedy is also used when the listings are loose. The finishing department is not the proper place to remedy this trouble, it should be done before weaving. It is usually caused from using yarns for the listings differing in size from those used in the rest of the warp.

As the goods will not lie smooth on the table, I judge the trouble is caused from cockles. It is often maintained that this trouble is caused in the fulling process, from uneven soaping, etc., but this is not so. Cockles cannot be made in the fulling mill. Cockles are made before the goods reach the finishing department, or even before the goods are woven. As they cannot be seen until brought out by the fulling process it is but natural to lay the blame on that. Cockles are often the result of uneven filling, mixed filling, uneven weaving and uneven oiling of the stock. The latter is the most frequent cause. Weaving in old bobbins of filling that have been allowed to lie around for a long time will also cause cockles. In such cases the oil is firmly set and is apt to start uneven in the fulling process. This can be overcome by a strong solution of alkali, as strong as the fabric will stand. Alkali is a strong acid in the fulling process and is likely to bring up the goods in width and length before the required amount of felt is produced. In such a case the goods should be thoroughly scoured before fulling, when it will be possible to treat them at this point so that the required finish may be obtained. Cockles are never caused from uneven soaping unless hot soap is used. This should never be used as the soap will penetrate very quickly in spots and these places will begin to full before the drier places become wet enough to start.

Mixed filling in the weave room will often cause bad work, especially on fabrics that require a lot of fulling. The filling being of different stock, with more or less twist, the goods will full unevenly. This is easily detected as the wrinkles run straight across the goods. When the goods come to the finishing room in that condition the only thing to do is to stretch them in width, leaving the pieces on the rolls over night.

Vincent.

Manufactures of cotton exported from the United States in 1906 aggregated practically $43,000,000, an amount exceeded but once, in 1905, when they amounted to $56,500,000.

Reddish Shades on Oxidized Black Hosiery.

Editor Textile World Record:

I am troubled with black hosiery coming out a reddish shade and would like very much to have you state the cause and remedy for the difficulty.

Spring (974).

A similar enquiry was answered in our September, 1906, issue, and as it is a question of general interest we give the replies which were as follows:

The reason for the goods turning red is that they are over oxidized. To heat to 110 degrees F. brings the goods to the danger point of tendering. This high heat, together with the additional oxidizing given the fabric during the lisling process, is the chief cause of the red tint. Rosedale says that formerly he has obtained a blue shade by the same formula. If he has there has been some change in the method of working, or the dyestuffs used now are inferior to those used before. While formulas for dyeing any shade do and will vary at times, there is no formula that, carefully worked, will give one shade at one time and then without any reason give an entirely different shade at another time. I think there must have been some change in either the formula or the ingredients, and these changes, however slight, have changed the tint.

The formula given is a good easy working one, but I think five pounds more of bluestone could be added to advantage. It would be even better to try the formula given below, which appeared in the February, 1906, issue of the Textile World Record:

40 lbs. Bluestone,
30 lbs. Chlorate of Potash,
12 lbs. Sal Ammoniac,
6 lbs. Verdegris,
130 lbs. Aniline Salt,
Water to make the solution 14° Tw.

The goods appear to be rather thin in color; possibly pounding them 40 minutes is not enough. Again the stock liquor may not be strong enough. Many dyers run their stock liquor at 14 degrees on single run blacks. The amount of moisture left in the fabric varies with different dyers, but a very good rule is to leave an amount of liquor equal to the weight of the goods dyed.

For oxidizing I would recommend a temperature of 100° instead of 110°, as the latter is too near the danger point, besides producing the objectionable violet shade. Hummel, the technical writer on dyeing, said in regard to this subject, that "the less oxidized product is a blue black," which is somewhat sensitive to acids. He also says that "the more highly oxidized product is a violet toned black that is not turned green by acids. This is produced by submitting the former to a supplementary oxidation."

While it is difficult to color aniline black, and all dyers have more or less trouble with it, there is no reason why a formula once worked out correctly should not be adhered to and satisfactory results be obtained if care is used. I would suggest that the stockings be pounded for 10 minutes longer with the stock liquor 14° Tw. Do not extract too dry or oxidize too warm or too long. Chrome with 5 per cent. bichromate of soda for 20 minutes and watch carefully the changes that take place. These changes should help solve the trouble, and last but not least make the changes slowly, observing the effect of every change. Time every operation to the minute. Have each ingredient carefully weighed and properly mixed. Work every lot as near the same time as possible; see that the stock liquor is kept cool. Some dyers use ice for this purpose so that premature oxidation does not take place. Finally keep at it, and with care and observation and some slight modifications of the formulas and methods the desired shade will be obtained.

Baumwolle.

The sample submitted is decidedly too red and heavy. I would suggest that all the ingredients be cut down but aniline salt, and the process be carried out as usual. When chroming 3 per cent. is enough. If this is not satisfactory on the next batch add to the dye bath 12 pounds of sal ammoniac and 40 pounds of nitrate iron, and when chroming use no acid or bluestone. This will make it bluer. If the rest of the process is satisfactory there is no use in changing it.

Morrison.

Weight and Gauge of Hosiery.

Editor Textile World Record:

What is the weight of 176 needle half hose when finished? Is No. 12 yarn about the right number for the tops? What size would you advise for the leg and foot? We are inclined to think it is better to use 13s or 14s, preferably the former.

Parkdale (1006).

1006: The weight of any 176 needle half hose will depend largely upon the number of the yarn used. On all standard makes of machines it is possible and also practicable to use any number of yarn from 10s to 16s on a 176 needle, 3 1/2 inch cylinder. However, the best results can be obtained from 13s or 14s. The weight of size 10 1/2 half hose on 176 needle, 3 1/2 inch cylinder, 48 gauge, should be about 1 lb. 4 oz. per dozen. If it is necessary to have the goods weigh a little more, it can be easily done by putting more stock in and knitting the goods a little firmer. In case it is desired to have the goods weigh a little less, this can be done by taking out some of the stock in the pattern wheel or chain and loosening the stitch. The same results may be obtained by using a heavier or a lighter yarn. The weight given above is for a medium tension. It is advisable to use a heavier or lighter yarn if more than an ounce or less than an ounce per dozen is desired. A difference of one number will make a difference of about 1 ounce per dozen in this gauge. In the coarser numbers, such as 7s or 8s, the difference will be considerably more. In the finer numbers such as 18s or 20s, the difference will be considerably less.

In changing from one size of yarn to another it is necessary to change the amount of stock, or rather the setting of the pattern wheel or chain. In cases where a finer yarn is to be used it is necessary to tighten the stitch and by so doing it shortens the hose, thereby making it necessary to add enough stock in pattern wheel or chain to increase number of revolutions to make up for the length lost by the tightening of the stitch. On the other hand if a heavier yarn is used it is necessary to loosen or lengthen out the stitch and by so doing the hose is lengthened and enough stock must be taken out to make up for what was gained by loosening the stitch.

The amount of stock to be taken out or put in will depend on the difference in the yarns which are to be changed. In this way it is possible to make a half hose weigh the same on a 176 needle cylinder with either a 13s or 14s yarn. However, the hose made from the 14s yarn would be knit firmer than the one made from the 13s. For the rib top either 12s or 13s could be used with equally good results. In case No. 13 is used for leg or foot I would advise the use of 13s for the top also, as the use of No. 12 for leg or top would necessitate carrying an extra size of yarn. I recommend the use of the same yarn for both tops and foot whenever possible as it prevents a mix-up of the yarn. As to the size of yarn to be used for leg or foot, 13s or 14s could be used with equally good results. The gauge of the needle used in the transfer machine might make some difference as to which of these numbers would be preferable. In case a 42 gauge needle is used No. 12 or No. 13 yarn would be best. While if a 48 gauge needle is used, No. 14 would give the best results. However, No. 13 or 14 could be used on either of these gauges with very good results. Merrill.

On looking over my records I find only one memo that relates to 176 needle half hose; it is as follows:

3 3/4 inch diameter of needle cylinder, 176 needles.

2 threads of 1/24s cotton.

Tops—4 inch cylinder—88 × 88 or 1 × 1 rib. Two threads of 1/24s cotton.

Weight 5 7/8 ozs. per dozen.

Total weight of sock as knitted, 1 lb., 5 ozs. per dozen.

If the size of needle cylinder is used as quoted above, 1/12s cotton will give the best results. The same size can be used for both leg and foot, although 13s or 14s could be used for the foot, but this would make the hose lighter in weight. If, however, the sizes of the needle cylinders are different than that quoted above, but still using 176 needles, a heavier yarn than 12s would be required and the weight of the half hose would be increased. The weight when fin-

ished will depend upon how much the half hose weighs in dyeing. In the case noted above the weight was brought up to about 1 1/2 pounds to the dozen. My record shows only the weight as coming off the knitting machine. Upon this weight the cost of yarn per dozen is based. Lafayette.

Lisle Yarn.

Editor Textile World Record:

What is the correct definition of a lisle yarn and when was it introduced into the United States?

Lombard (1002).

The term lisle thread originated at Lisle (Lille), France, and refers to a very fine hard twisted yarn made for the cotton glove trade. The glove cloth was noted for the remarkable fineness of texture, and almost entire absence of loose fibers on the fabric. Later this class of yarn was used in the manufacture of hosiery. It will be of interest to note the extensive application of this term, which at the present time is used in many instances to designate merely the smooth fiberless appearance of the fabric, even when produced from coarse and inferior yarns. Instances of this are found in the manufacture of low grade hosiery, made from common carded yarns, which are subsequently lisled in conjunction with the dyeing process, as in the oxidation aniline black, by which the fibers are chemically burned and rubbed away, thus producing a clear foundation to the fabric, similar in effect to that produced by the use of a combed yarn of much finer count as employed in the real lisle products. I have no data as to when this class of yarns were first introduced into the United States.

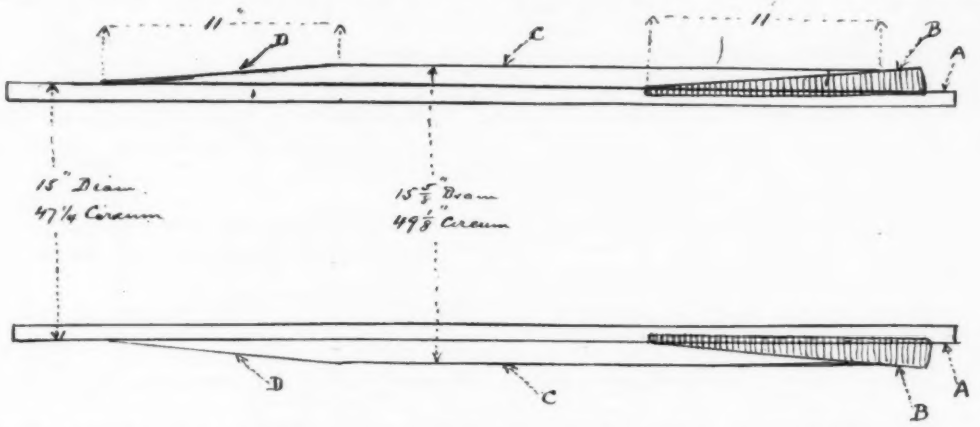
Palmetto.

Calculating Length of Silk Warp.

Editor Textile World Record:

What is the method of calculating the length of silk warp, at different grades, on a Swiss warping reel, the circumference of which is 47 1/4 inches? How do you determine the angle at which the grade bar must be set? Mont Blanc.

The varying sizes of the silk and the different weightings that are given to it, which of course will increase or diminish the bulk of the thread, will require different adjustments of the grade bars in making warps. Each mill will accumulate a body of information on this point. A careful record is kept for each size of silk and each different weighting that is used. Whenever warps of a different kind are to be made, the reference book will give the exact particulars as to how the bars should be adjusted.



For the benefit of such of your readers as do not know what the Swiss warping reel is, it may be stated that the sections of warp overlap each other, instead of lying side by side as is the usual practice in the warping of woolen or worsted yarn. The object of this overlapping is to eliminate the risk of the goods showing section stripes when finished, which would be likely to happen owing to varying degrees of tension of the sections during the warping. Woolens and worsteds go through a wet finishing process which tends to eliminate this defect, but silk

goods, being finished dry, would show it up very plainly.

Swiss warping reels are made in various diameters and lengths, the one to which your correspondent refers being a small size that is used very little at present. These reels are constructed in the usual manner, having longitudinal bars of wood secured to circular iron rings and rotating on a central shaft. There are no pins or holes such as are used in the ordinary section reels. At one end of the reel there are short, narrow iron bars introduced lengthwise into each of the wooden bars. These are so arranged that the outer ends can be raised up within certain limits and thus made to slope up from the general level of the wooden bar. The threads of the warp, when wound around these sloping bars will, of course, slant upwards in the same manner, and as each succeeding band is started a little further down the reel, the last band of the warp will be on just the same slant as the first one.

It will be seen from this how well the Swiss system of warping blends together the different sections so that the chance of section marks is eliminated.

I present here a drawing representing the cross section of a reel, which will illustrate the above description. The outer side of the horizontal wooden slats is at A; the adjustable iron bars are shown at B; the top of the warp as wound upon the reel is shown at C; D shows the surface of the last band of the warp when finished. This reel, 47 1/4 inches in circumference, will have a diameter of 15 inches. The warp on the iron bars will have a spread of 11 inches, and the warp, when wound upon this reel, will have a circumference of 49 1/8 inches, equivalent to a diameter of 15 5/8 inches. In this diagram, the thickness of the warp appears relatively greater, and is so shown to make the idea clearer.

Let us now suppose that a typical warp is to be made with 300 ends of two thread organzine to the inch, size 1.70 deniers, weighted to 14/16 ounces, and that the length of the warp is to be 300 yards.

The number of threads in, and consequently the width of each band, will depend on the capacity of the bobbin frame. The width of the goods will determine the number of bands. The mill records will show that the above warp will run eleven inches on the grade bars. The machine counter is figured to register the length at the minimum circumference of the reel, that is the distance around the wooden bars. The circumference increases as the band travels up on the bars, so an average has to be calculated.

For a reel of this size our records would also show that eleven inches out on the grade bars the circumference should be 49 1/8 inches. If we make the warp 224 turns of the reel, we have

224 × 47 1/4 (least diameter) = 294 yds.
224 × 49 1/8 (greatest diameter) = 306 yds.

600

600 ÷ 2 = 300 yards, average length.

It is desirable to have a special steel tape carefully marked off so that no errors of measurement may occur.

Velours.

Machines for Bleaching Knit Goods.

Editor Textile World Record:

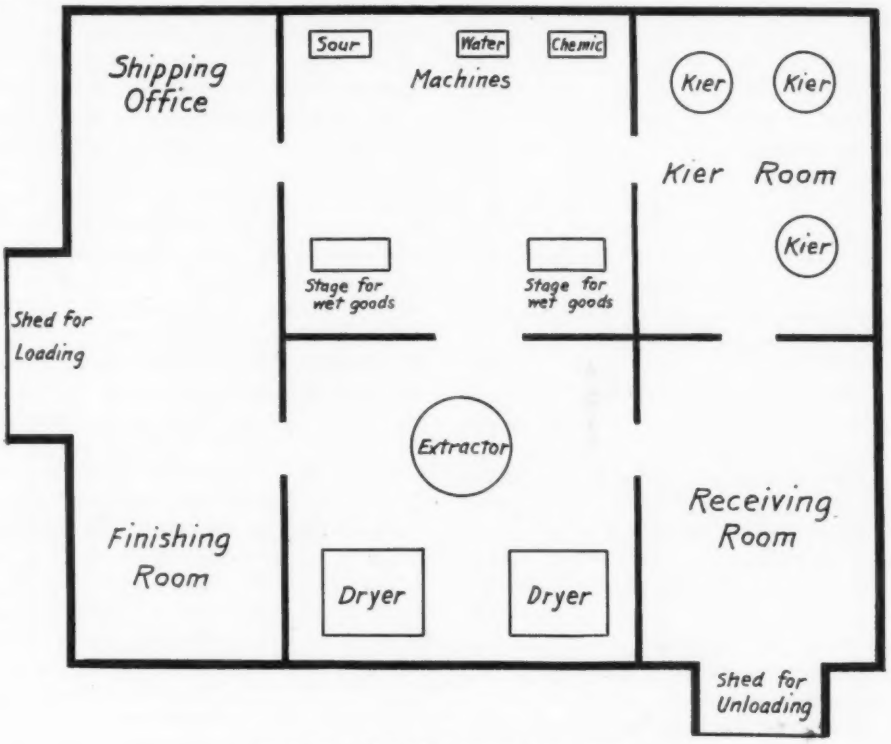
Please state the kind and number of machines required to bleach 100 pieces of knit cloth per day, each piece weighing 10 pounds. Give estimate of the cost of such a plant. Let me know how long it will take to bleach the goods from the time they enter the works until they are finished.

Osaka (1010).

The questions are rather indefinite. I know of several mills that do the whole process of bleaching for both raw stock and knit goods in a Klauder-Weldon rotary machine, without taking out the goods. This requires a large quantity of water, and takes more time. I think there is also a waste of drugs and am convinced that it is cheaper to put down an extra machine as it would pay for itself in a very short time. "Osaka" will require a kier to put his goods in for boiling. I would advise him to get one with a capacity of not over 2,500 to 3,000 pounds, as over that weight the goods do not boil satisfactory.

It is useless to quote prices here. Information on this point should be obtained from the builders.

"Osaka" will also require a washing machine. Some bleachers chemic the goods on a stage, but I prefer the machine for this and for scouring. Fig. 1 shows the layout of the machines. They are arranged to facilitate the handling of the goods. I would advise "Osaka" to put in an extractor to take all the surplus water out of the goods. This will enable him to get rid of the pieces quicker at the drying end. He will require a drier for drying the goods after bleaching. The truck drier is a good machine and can be arranged for all classes of fabrics.



PLAN OF A ROOM FOR DYEING KNIT GOODS.

The time required for bleaching depends upon the process and the facilities for handling the goods. On an average it will require about four days. For illustration, the goods arrive today, they are checked, weighed, stamped and arranged for the run in the kier in a lot of 1,000 pounds. If put in the kier today they will boil tonight. Tomorrow morning they are washed and chemicked and must have the required length of time in the chemic bath before they can be washed and soured. The third day the goods are washed and dried. The fourth day they are finished and packed up. That is very quick work. It is not advisable to be too quick in the bleaching process.

Dulcimer.

London Wool Sales.

Editor Textile World Record:

Kindly advise us as to the time at which the London wool sales are held this year.

Glenwood (1012).

The London wool sales are held in January, March, May, July, September and November of each year.

More than 8 1/2 million dollars' worth of knit goods were imported into the United States in the twelve months ending June 30, 1907, and of this amount more than 7 1/2 millions came from Germany.

KNITTING DEPARTMENT.

For Knitting Mill Machinery, Equipment and Supplies, see pages 236 to 253. Also Buyers' Index.

THE KNIT GOODS SITUATION.

Nearly all of the larger buyers of knit underwear from the West have visited the primary market during the past month and it is reported that a few of them have gone home without placing any orders, but it is believed that the majority placed orders on numbers with which to shape up their line of spring goods, averaging about half of the amount that they bought a year ago. As a consequence of this shrinkage in orders, manufacturers and their agents are today traveling the country over and making very determined efforts to secure business, and small orders are thankfully received. One manufacturer, who for several seasons past has catered only to the large jobbers, told the writer a few days ago that he was about to start on a trip of six to eight weeks and intended to make all the high grass towns this side of Missouri.

As to the prices on spring lines, it is said they were never so low, even when cotton was six to seven cents per pound, and it is very difficult for some to understand how the present prices can be made when the cost of raw materials, high labor costs, and the probable increase in the cost of selling the merchandise is taken into consideration.

There have been a number of reductions made in prices during the past two weeks. This is particularly true in men's low priced balbriggans, and it is now possible to get a very creditable looking 4-pound garment as low as $1.65 made with double seated drawer and in fact as good goods as were shown a year ago at $2.12 1/2. At $1.75 one can get a 4 1/2-pound garment made with white tipped collarette neck on the shirts and with three-button outside band drawer. At from $1.90 to $2.00 some of the most sightly 25-cent men's balbriggans may be had that have ever been shown. Manufacturers seem to have done themselves proud in getting out samples at these prices and it is a question now if they are not so good as to injure the sale of the better goods to some extent. Men's balbriggans to weigh five pounds, shirts bound with silk Prussian binding and drawers with double seats, sateen bands, pearl buttons and extension straps are being shown by several manufacturers. We are told by some of the manufacturers who are offering these goods that they cannot figure on getting back a new dollar for an old one, but must keep their organization together and are badly in need of orders.

In fifty-cent balbriggans, very excellent values are shown this season. The Roxford Knitting Company have a complete line of combed Egyptian yarn goods and are offering 3 1/2-pound weights at $3.25; 4 1/2-pound at $3.45; 5-pound at $3.55 and 6-pound at $3.75. These quotations are all with single seated drawers, the double seated drawers costing 25 cents per dozen additional. These people also show a line of heavy weight balbriggans, a particularly good one weighing 7 pounds being offered at $6.25. They also have a line of white lisle thread shirts and drawers at $7.00 which is becoming very popular with well dressed men.

The Lebanon Knitting Mills Company are selling through Messrs. A. S. Haight & Co. a line of 5 1/2-pound combed Egyptian goods at $3.50, which is a very good copy of the French balbriggans. They are 30-gauge goods with tailor shaped shirts made with set in sleeves,—the drawers made with shaped hips and with double seat sewed in with elastic seam, which makes a talking point for the garment.

The Walrath line of balbriggans sold through Day & Kenyon show a reduction in prices from last year; also some improvements in the finishes. This line of goods is made from stained yarns. The garment weighing 5 1/2 pounds on size 40 shirt made with loop rib tail and pearl buttons, strap back drawer, is sold at $3.75.

It is reported that the Ford Mfg. Co. have sold a quantity of combed Egyptian balbriggans at very low prices, something like $3.25 for goods weighing 4 3/4 pounds. This quotation is for hem tail shirt with horn button drawer; the sewed on rib tail with pearl buttons at $3.37 1/2 and looped on rib tail shirt at $3.50. We understand there is no more of this line to be had at these prices, it being made of a stock lot of yarn.

Considerable interest is being felt in some quarters in the greatly increased use of nainsook underwear for men and its effect upon the demand for knit wear. Certain it is that large quantities of it are being made and it seems as if it must cut into the demand for balbriggans and ribbed goods to some extent.

Erlanger Brothers have made extensive arrangements for advertising and pushing the sale of their B. V. D. line for spring, 1909. During the season just past, they restricted the jobbing price and are making arrangements to restrict the retail prices for another season. Their most popular selling number in shirts and drawers cost $3.40 and is to be sold by the jobber at $4.12 1/2 and by the retailer at 50c. The suit in the same cloth costs $6.90, to job at $8.25 and retail at $1.00. They show a very handsome line of fancy figured fabrics in shirts and drawers in a wide range of high colors at $6.37 1/2 to job at $8.25 and retail at $1.00. They are using on all of their better drawers a new contrivance with which to adjust the band. It consists of buttons and loops on each side of the band, with which, it is claimed, the garment is more easily adjusted than the strap in the back.

Wise Brothers are also showing pin checked nainsook shirts and drawers at $3.25, a mercerized line at $3.62 1/2 and satin striped gauzy fabrics at $6.25.

That this business is being felt by the union suit manufacturers is apparent from the fact that some of the larger ones are this season showing samples of nainsook suits for spring. The Atlas Underwear Company have a line of which the upper part of the garment is made of ribbed fabric, while the drawer part is made of nainsook.

The Piqua Hosiery Company are showing some garments, the back of the upper part of which is made of ribbed fabric and the balance of the garment of nainsook. Both of these people have also improved their line of ribbed union suits and showing a fabric made on Cooper spring needle machines. These may be had in combed yarns at $6.75 to $7.00; lisles at $9.00 to $10.50 and in mercerized goods at $14.00.

The Cooper Mfg. Company of Bennington, Vt., are showing a line of suits in ecru, white, blue and flesh at $7.50 regular that is proving to be a good selling number. They also show a lisle thread at $13.50 and mercerized at $18.00.

Some sections of the country have taken freely of the mesh underwear for men and the manufacturer of "Porous Knit" line may feel flattered at so many good imitations on the market this season. The Avalon Knitwear Company have a very handsomely trimmed number in shirts and drawers, the fabric of which is similar to "Porous Knit," at $3.00 with suits at $5.50. They also show the same fabric in ladies' vests and pants at $3.25 and combination suits at $4.50. Gardiner & Waring are showing through Clift & Goodrich a very good copy of the "Porous Knit" garment at $2.00 per dozen, and the Utica Knitting Company have a lower grade at $1.90.

HOSIERY.

A large number of Western hosiery buyers have been in the market, but as many of them have just returned from Chemnitz, they remained here only a few days and will probably be in the market again shortly to place more orders, when they have more fully learned their requirements. Those buyers, who have operated in a general way, bought very sparingly and apparently just placed orders to cover themselves for a short time until they can get their travelers started and have an opportunity to learn how active spring ordering by retailers will be.

There are many Southern buyers yet to be heard from and as the reports of the condition in the South indicate an improvement in business there, it is hoped that this section at least will place orders nearer in accord to their needs, than the Western buyers have.

From present indications, it would look as if domestic hosiery manufacturers will be called upon to produce for spring, 1909, only about two-thirds of their production of 1908, and that the difference that will be needed by the retailers will be supplied from the imported goods being contracted for at very low prices, due to the bad condition of affairs in Chemnitz. It is interesting to learn that a large part of the business on 25-cent hosiery has gone back to the foreign manufacturers during this season and the part retained by the domestic manufacturers is on the heavy weight end.

FULL FASHIONED KNITTING.

BY PAVONIA.

(Continued from August.)

Full fashioned hosiery is made almost exclusively on the Cotton system of knitting machines, the several other systems—really connecting links in the evolution of full fashioned knitting machinery—having been almost entirely discarded in favor of the larger and more efficient machines of this type. Before trying to explain the system of making this class of hosiery I will compare it with automatic work and point out some of its differences. The relation of the shape in the leg of a full fashioned ladies' stocking to an automatic or seamless one is shown at Figs. 1 and 2. The actual knitting of full fashioned leaves the fabric, when seamed, in this particular shape, conforming to the shape of the leg, calf and ankle, with a straight front and with the narrowed portion of the leg being entirely in the back part of stocking, which, according to the shape of the human leg is perfectly correct. The full fashioned fabric is of the same consistency from beginning to end, it not being necessary to slacken or stiffen goods (lengthen or shorten stitch) in order to make the difference in width between the narrower and wider parts.

In automatic or circular made hosiery, where the fabric is widened or narrowed by changing the length of the stitches, we get a sort of bottle shaped affair as shown at Fig. 2, also the work is loose knit at top or wide part, and tight at the narrow portion of stocking. On ordinary seamless ladies' hose it is possible to lengthen the stitch sufficient to give the width required, but when an extra wide stocking is wanted, as in opera hose, the fabric becomes extremely loose and slazy on account of the very long stitches in the part where the extra width is given. On the full fashioned (Cotton system) it is not only possible to knit ordinary hose with the same quality of fabric throughout, but opera hose, or tights having body and stockings all knitted together, and in fact, any other garment, can be made with the fabric of the same texture, irrespective of the width on which the knitting is done. This evenness of fabric throughout the entire stocking is one point in favor of full fashioned goods. I might illustrate this by an example. Now suppose we take a 240 needle seamless, which is about equal to a 39 gauge full fashioned. There will be 240 stitches in the widest part of the leg and also the same amount in the narrowest portion, and again in the foot we have still 240 stitches, although each width requirement is

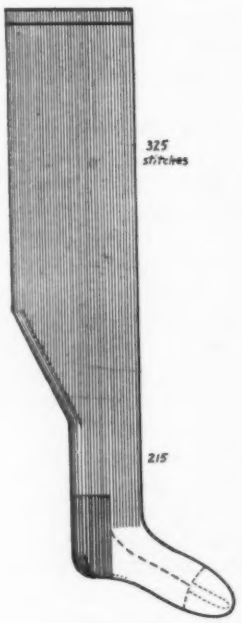


FIG. 1.

FIG. 2.

different. In the full fashioned there would be about 325 stitches in the wide part and in the small about 215 stitches, while the foot would start on about 245 and be narrowed as required to produce shape.

Another difference can be found in the welts. The full fashioned welt has a clear connection, with continuous knitting from the extreme tip of welt to the single fabric. It does not possess the tight cord which so

FIG. 3.

often is complained of in the automatic, where the welt is stitched down because no stitching is required whatever on the full fashioned welt.

The making of the welt on full fashioned work consumes a great part of the knitter's time and is one of the most important operations in knitting. It is doubled over by hand and transferred on to the needles. This turning of the welts is one of the hand operations which has never been mechanically performed with any degree of success. There are mechanical arrangements by which this work can be done but already the machines are so complicated and delicate, that to add an apparatus of this kind would make them almost impracticable; consequently, these large machines, costing each but a little short of $3,000, must stand idle while each individual welt is transferred by hand.

With an expert operator the lost time averages on an 18 section machine about 3 minutes each set. Considering this enormous loss of time in making, the full fashioned welt should certainly count for something not unfavorably. One thing is certain, it never pulls out or tears at the stitching because, as previously stated, no stitching exists in its makeup to break when the welt is stretched. It is equally as flexible at the joining as at tip and it being of the same consistency as the body of stocking, it is firm and durable.

The one probably unsupportable feature of full fashioned hosiery today is the seam underneath the foot. Up to a few years ago full fashioned hosiery did not possess this greatly exaggerated fault, but in recent years it seems to have become so obnoxious to some people that the word "seamless" is able to charm them into buying a much inferior article.

Fig. 3 represents a full fashioned stocking made for many years before this one seam stocking came into existence. We find the seam there on each side of the foot instead of underneath. This kind of foot is called the "English" foot, while the one with the seam underneath is called the "French" foot. This seam under the foot does not solely constitute the "French" foot, the predominating feature being rather the manner in which the toe is narrowed. It would be quite easy to knit a foot with the seam in the center of the sole and many attempts have been made to get up something just as good, but up to the present the French foot has the precedence.

The manner in which the narrowings are worked in making this French foot is easy to distinguish. There are two parallel lines of narrowings which taper down to a point at the lower end on each side of the foot, or rather toe. This is called by all English knitters the "diamond toe" and it is the chief

characteristic of the French foot. This foot seems to be a good illustration for showing plainly that there is something more in knitting to shape than the simple widening or tapering of fabric at selvages. To get a good understanding of what a French foot is, it might be well to make an example

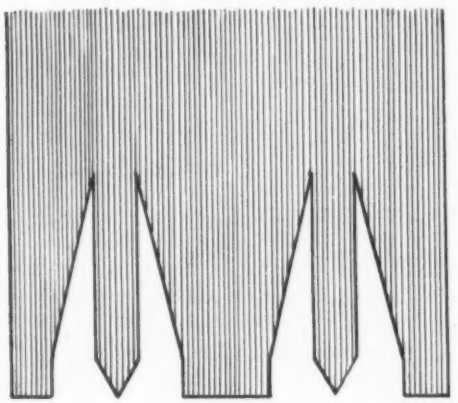


FIG. 4.

showing how the same effect could be produced by cutting. Now suppose we take a piece of knitted web the width of a stocking foot before being seamed, and cut out the pieces as in Fig. 4. If we double this over and join together all these pieces side by side as in Fig. 5 we have the real shape of a French foot as knitted on the machine. Instead of cutting out the pieces as in Fig. 4 the machine through its fashioning apparatus knits the foot all in one piece, the narrowings showing where the bias fabric seems to connect with the straight knitting. It can be seen that when these pieces are connected or drawn together that the fabric will form quite a hollow in the center. This is precisely what the French foot does, for after the selvages are connected the foot is round and hollow and to a great extent resembles a pocket. The same effect is found in what is called the French heel. This heel is found on all up to date full fashioned goods and is shown at Fig. 6. Its appearance when finished can be seen at Fig. 1. This kind of heel is very desirable as it forms the same pocket, for the heel, as the same method of narrowing does with the French foot, besides making a very graceful turn around the heel. The old style straight narrowed heel can be seen in Fig. 3 on the English foot. This old heel is used considerably now and is found on much of the imported goods.

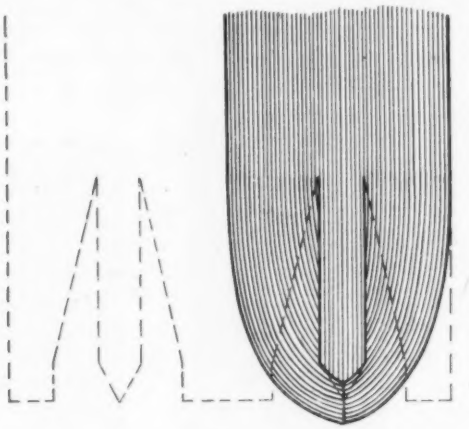


FIG. 5.

The reason the French heel has not been entirely adopted is owing to the fact that while the making of the French foot requires an entirely new machine, it being such a radical change from the English foot, the leg

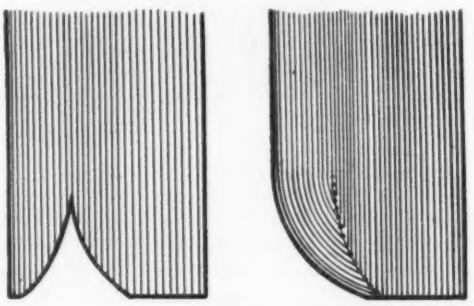


FIG. 6.

can be made on the very machine which formerly made legs for English feet. Consequently, these old style machines, although not equipped thoroughly for this improved heel are, nevertheless, being used for the knitting of legs for French footed stockings.

(To be continued.)

FANCY KNITTING DESIGNS.

BY F. W. HERINGTON.

(Continued from August.)

The combination of small and deep cuts of the tuck pressers thus produce both tuck and plain stitches. The alternate plain pressers press off every loop. To read the design for the cutting of the tuck pressers we start at the left square of Fig. 172 at the top marked course, 1, which is as follows: One tuck, three plain, three tuck, three plain, one tuck, one plain, one tuck, one plain, two tuck, three plain, two tuck, one plain, one tuck, one plain, 1, Fig. 176.

The next course is as follows: One tuck, two plain, two tuck, one plain, two tuck, two plain, one tuck, one plain, three tuck, five plain, three tuck, one plain, 2, Fig. 177.

There being two tuck pressers, it is important in starting that the first cut to the left of section 1, Fig. 176, and the first cut of section 2, Fig. 177, be set on the same needle in order to properly produce the design as illustrated at Fig. 175. Should this not be carefully done, or should the number of needles in the cylinder be inaccurate, the tuck stitches would occur in different positions and the result would simply be a mixture of tuck and plain stitches without any pattern.

We will now show the original design, Fig. 174, divided into two separate designs, one produced with two feeds, and the other with four feeds on the machine and showing also the different manner in which the tuck pressers are cut, the number of needles in the cylinders, and the necessary remainders.

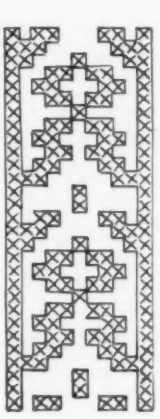


FIG. 178.

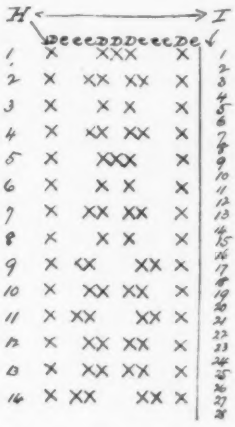


FIG. 179.

Fig. 178 shows the left half of Fig. 174 repeated vertically, which illustrates how the design appears on the drafting paper. Fig. 180 is the same as Fig. 178, but shows how the design runs horizontally at 1, which commences at course 7 from H to I; a continuation of the design at J would begin at course 13.

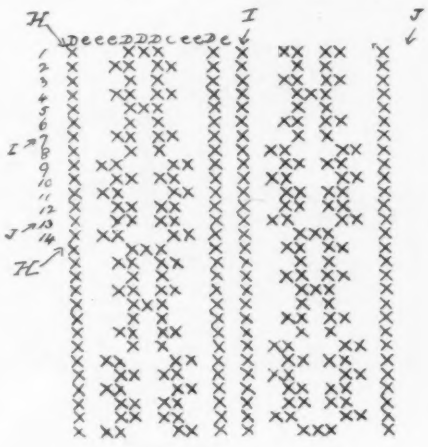


FIG. 180.

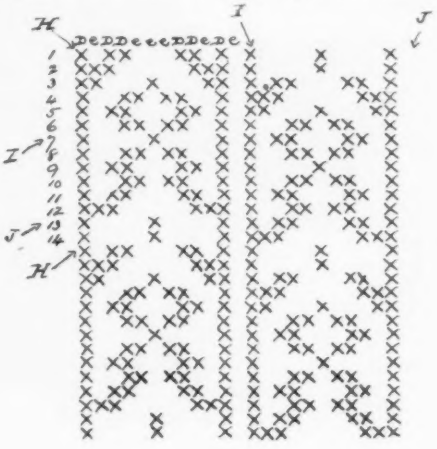


FIG. 181.

Fig. 183 is a section of the design, Fig. 180, showing the alternate plain courses.

From this the drafts of the enlarged loops like Fig. 175 are made. In this way we ascertain the number of stitches in the design, so as to arrive at the number of cuts required in the tuck presser, together with the number of sections the presser is to be divided into, which regulates the number of

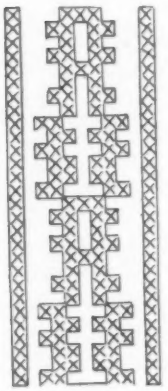


FIG. 182.

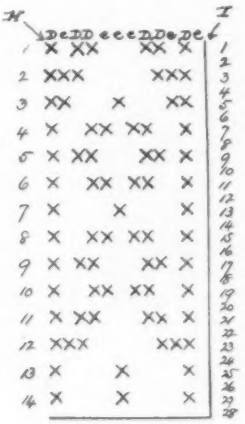


FIG. 183.

needles which must remain over after the total number of needles in the cylinder have been divided by the number of cuts in the presser.

Taking into consideration only the tuck courses, and starting at square marked H, Fig. 183, and counting from H to I, we find the squares represent 12 stitches, and that there are 14 courses or 14 × 12 = 168 stitches. As we are to have only one tuck presser, this must be the number of cuts in the tuck presser, divided into 12 sections or one section for each course.

Fig. 186 is a top view of the tuck presser. The section numbers follow to the right on the circle, in rotation, thus showing that the number of needles in the cylinder must be divisible by 168 and leave a remainder of 156 or 12 needles less. Thus after one revolution of the machine, the tuck presser revolving to the right, the presser will be carried 12 needles to the left, so that the cut on the extreme left of section 2 would come directly under the cut on the extreme left of section 1, and so on after each succeeding revolution of the machine. Section 3 would come under 2, etc., until 14 complete revolutions of the machine had been made, which would complete the design, and then it would repeat on the 15th course, Fig. 180.

The number of needles as a remainder for this design could also be 12, but if so, in cutting the presser, the section numbers must follow in rotation to the left. Section 2 would be where section 14 is, and vice versa; the cutting of the presser would have to correspond to the numbered sections.

Fig. 182 is the right half of Fig. 174 repeated vertically. Fig. 181 shows the design running horizontally in the same manner as already described for Fig. 180.

Fig. 179 shows half of the original design, as described for Fig. 183.

From Fig. 179 we find the same number of stitches, 168. This design is to be shown as being produced with four feeds, two tuck pressers and two plain pressers. We accordingly divide this number by 2 = 84, the number of cuts required in each truck presser. As the number of stitches in each course from H to I does not vary, each tuck presser will be divided into 7 sections of 12 cuts each.

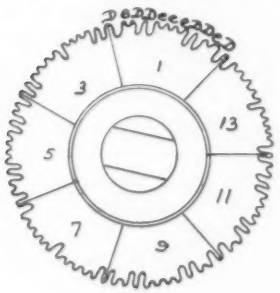


FIG. 184.

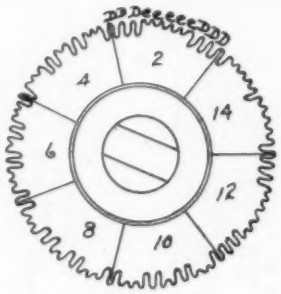


FIG. 185.

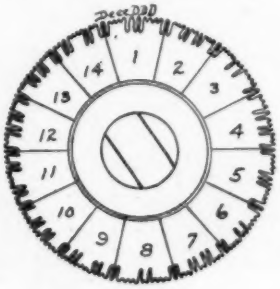


FIG. 186.

Figs. 184 and 185 are top views of the tuck pressers, section 1 being on one presser, and section 2 on the other, both pressers in starting being set on the same needle.

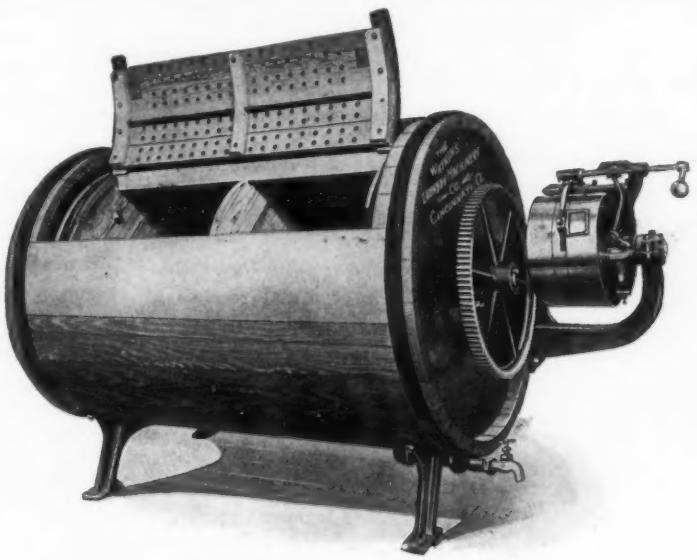
At Fig. 184, section 3, follows 1 to the left, thus showing that the number of needles in the cylinder for this design must be divisible by 84, the number of cuts in the presser, and leave a remainder of 12 needles. After one revolution of the machine, the tuck pressers revolving to the right will both be carried 12 needles to the right, and thus bring each number in rotation after each revolution of the machine in the position as already described for the previous designs.

A WASHING OR DYEING MACHINE FOR KNIT GOODS AND GARMENTS.

The illustration shows a simple and inexpensive style of machine of a type which is used by many knitting mills for washing and scouring knit goods, and in some mills a machine of the same type is successfully used for dyeing or bleaching knit fabrics. It is built by the American Laundry Machinery Co., 78 Franklin St., Chicago. The picture shows clearly the construction and operation of the machine. Everything is simple and convenient and no special skill is required to run it.

This washer has been perfected recently after years of experience in actual service. Every detail of construction has been studied carefully. The cut shows a wood washer, but the company builds several different types, including one of heavier and more substantial construction known as the all metal washer with solid head. Other styles have brass cylinder with wooden case, wire rib and they also build a cheaper single gear washer. They are all thoroughy built and well calculated to stand long wear and hard service.

The same company also builds other equipment suitable for certain branches of textile mills, particularly knitting mills, including mangles or ironing machines for finishing knit goods, and hydro-extractors of various styles both overdriven and underdriven.

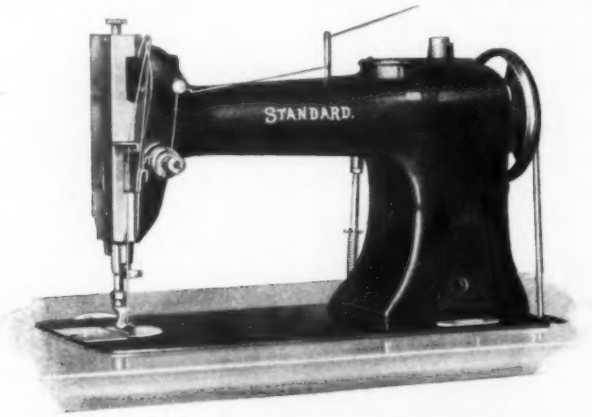


A WASHING AND DYEING MACHINE.

The year ending June 30, 1907, the wool imported into the three ports of Boston, New York and Philadelphia amounted in round numbers to 91 million, 71 million, and 31 million pounds respectively.

THE NEW "STANDARD" LOCK STITCH SEWING MACHINE.

The lock stitch sewing machine, of which illustrations are shown herewith, is a new model recently placed on the market by the Standard Sewing Machine Co., Cleveland, Ohio, known as the 75-1 "Standard." It is designed to meet the requirements for a machine that will produce economically and satisfactorily a wide range of perfect work.



THE NEW STANDARD 75-1 LOCK STITCH SEWING MACHINE.

The manufacturers claim that it is just as suitable for use on the heaviest work as on medium weight material, or very thin and sheer goods, and that therefore it is unnecessary to have two sets of sewing machines to suit goods of different weights. The stitch closes and is finished with the point of the needle 1/2 inch above the needle plate. The following claims are made for the 75-1 "Standard": Uniformity of stitch whether long or short, or at high or low speed; solid construction insuring strength and steadiness and a capacity for high speed. The rate of speed for the 75-1 "Standard," 2,800 stitches per minute, is in excess of the ordinary operator's ability to handle the goods. It responds instantly both in starting and stopping, this being an important advantage in respect to production. It runs easily and quietly, requiring a small amount of power. Its simple and solid construction results in a low cost of maintenance. The shuttle passes entirely through the upper thread loop with no resistance to the drawing up of the thread and forming the stitch. A positive take-up controls the thread without strain. The adjustment gives an elastic stitch and a perfect seam. The 75-1 "Standard" is driven by a flexible gear connection made of indurated fiber links or teeth, an arrangement which has been found to be much superior to the ordinary leather or twine belts.

The "Standard" Sewing Machine Co. offers to send a sample machine to any responsible manufacturer on approval, to be returned at the end of 30 days if not entirely satisfactory.

Price Paid in Manufacture of Hosiery.

Editor Textile World Record:

Please give price per dozen for looping, knitting, topping, packing and mending hosiery.

Dexter (1013).

The prices paid for the different operations in the manufacture of hosiery depend largely upon the gauge and quality of the work. The finer gauges pay a better price than the coarser gauges. The kind of machines used also have considerable to do with the prices as machines with the greatest production can be operated for the smallest possible price. I will endeavor, however, to quote the prices usually paid for all standard makes of machinery throughout the Middle West. These prices are subject to variations according to locations. Prices in the East and South are somewhat less

than prices in the West and Middle West. This is due mostly to the greater supply of experienced help which can be had in these localities. In order to simplify matters it will be necessary to classify the different gauges under separate heads and give prices for each separately.

In the ribbed tops there are no standard gauges, some manufacturers using finer gauges than others, or coarser as the case may be. However, in the foot machines or plain knitters, we find them classified as certain gauges or needle work.

Such as:

76 or 84 needle work in one class.
108 and 120 needle work in one class.
136 and 128 needle work in one class.
148 and 160 needle work in one class.
180 and 200 needle work in one class.
216 and 220 needle work in one class.
240 and 260 needle work in one class.

The prices paid for topping in the above lines depends upon the class of work being manufactured. Half hose and children's hose or long ribbed tops bring different prices. The same also holds good in prices paid for knitting. The following tables show prices for topping and knitting, for half hose and children's ribbed hose, viz:

76 and 84, topping half hose, 4 c. per doz.
108 and 120, topping half hose, 4½c. per doz.
128 and 136, topping half hose, 5 c. per doz.
148 and 160, topping half hose, 6 c. per doz.
180 and 200, topping half hose, 7 c. per doz.
216 and 220, topping half hose, 8 c. per doz.
240 and 260, topping half hose, 9 c. per doz.

76 and 84, knitting half hose, 3½c. per doz.
108 and 120, knitting half hose, 3½c. per doz.
128 and 136, knitting half hose, 4 c. per doz.
148 and 160, knitting half hose, 4 c. per doz.
180 and 200, knitting half hose, 4½c. per doz.
216 and 220, knitting half hose, 5 c. per doz.
240 and 260, knitting half hose, 6 c. per doz.

In children's ribbed goods and ladies' ribbed goods we have the following standard lines and prices. It is very seldom we find these grades of goods coarser than 108 needle or finer than 180 needle. The finest gauge ladies' ribbed hose are usually transferred onto an 180 needle 3 1/2 inch machine. The standard lines in this class of work are the 108 and 120 needle, 136 and 160 needle, and 180 needle line. In the manufacture of half hose we usually find the same number of stitches in the ribbed top as in the transfer machine or body of the hose, while in the ribbed hose there are usually more needles or stitches in the ribber than in the transfer or foot machines. This makes it necessary to lap the stitches in transferring and for this reason the cost of topping is considerably more on this line of work than in half hose. The more stitches there are in the ribbed top, the higher the cost of topping is transferring. The following table, however, will show the standard prices paid for topping and knitting this class of goods.

108 and 120 line: Topping—sizes 5 1/2 to 7 1/2, 7c. per doz.; size 8, 8c. per doz.; sizes 9 to 10, 9c. per doz. Knitting—sizes 5 to 8 1/2, 3 1/2c. per doz.; 8 1/2 to 10, 4c. per doz.

136 and 160 line: Topping—sizes 5 to 7 1/2, 7 to 9c.; sizes 8 and 8 1/2, 8 to 10c.; sizes 9 to 10, 9 to 11c. per doz. Knitting—sizes 5 to 8 1/2, 4c.; sizes 9 to 10, 4 1/2c.

180 N. line: Topping—sizes 5 to 7 1/2, 12 to 14c. per doz.; sizes 8 and 8 1/2, 14 to 15c. per doz.; sizes 9 to 10, 15 to 17c. per doz. Knitting—sizes 5 to 8 1/2, 4c.; sizes 9 to 10, 4 1/2c. per doz.

The more stitches there are to top the more the cost of topping.

The prices of looping also depend upon the gauges and are classified the same as in topping. Prices for looping are as follows:

108 and 120 line, 3 1/2c. per doz.
136 and 128 line, 3 3/4c. per doz.
148 and 160 line, 4c. per doz.
180 and 200 line, 4 1/4 and 4 1/2c. per doz.
216 and 220 line, 5c. per doz.
240 and 260 line, 6c. per doz.

The price paid for mending varies greatly and is really the most difficult operation in the manufacture of hosiery on which to set a price. In a great number of mills we find all mending done by day work. Some

grades of work require much more mending than others and it is impossible to classify it in an article of this kind. The prices usually range from 2 to 5 cents per dozen for inspecting and mending. Manufacturers usually figure on an average about 3 cents per dozen for mending where a full line of all gauges both in cottons and woolens are manufactured.

The above prices are the standard prices paid at the present time throughout the Middle West and will be found to be from one to two cents per dozen higher for topping and from 1/2 to 1 1/2 cents per dozen higher for knitting than the prices paid in the New England and Eastern States.

The prices for knitting ribbed tops are as follows:

Sizes 4 to 6, 1 to 1 1/2c. per doz.
Sizes 7 and 8, 1 1/4 to 1 3/4c. per doz.
Size 9, plain stitch, 2c. per doz.
Size 9, tuck stitch, 2 1/2c. per doz.
Half hose tops, 1/2c. per doz.

The prices for ladies' plain knit or string work hose are as follows:

136 needle line, 2¼c. per doz.
160 needle line, 2½c. per doz.
180 needle line, 2¾c. per doz.
200 needle line, 3 c. per doz.
240 needle line, 5 c. per doz.

KNITTING MILL NEWS.

North Carolina, Kinston. Reports to the effect that the Orion Knitting Mills had increased the capital stock to $100,000 and contemplated greatly enlarging the plant, are incorrect. The capital stock is $60,000 and the only improvements being made are the replacing of a few worn out machines with new machinery.

Pennsylvania, Philadelphia. Graupner & Sons report that they are now going over their Park Hosiery Mills at 3d and Bristol Sts. inspecting their boilers and machinery and also arranging space for an addition of 15 new knitters with a view to getting ready for a large fall business. They are now operating 188 to 200 needle half hose with 15 knitters, 4 ribbers and 3 loopers, the production being sold direct.

*Pennsylvania, Rothsville. The Rothsville Knitting Mills, reported incorporated last week, take over the business of the Rothsville Knitting Mills of this place. The capital stock is $10,000. A. J. W. Baker has been elected president, C. W. Grosh, treasurer. Cotton and lisle seamless hosiery are manufactured on 60 knitters, 6 ribbers and 8 loopers. The product is finished at the plant. 10s to 50s yarn is bought.

Rhode Island, Pawtucket. The exterior work on the new mill erected for the Lumb Knitting Co. has been completed and floors are being laid preparatory to setting up machinery.

*South Carolina, Jonesville. The recent fire in the plant of the Jonesville Mfg. Co. destroyed only the knitting mill, causing a loss of $90,000. The insurance was $81,000. The damage will be repaired at once and manufacturing continued.

South Carolina, Union. Extensive improvements are being made in the plant of the Excelsior Knitting Mills. New floors are being laid in the knitting department and the dyeing and finishing rooms are being repaired.

*South Carolina, Walhalla. Good progress is being made on the enlargement to the Oconee Knitting Mills plant, reported in July. As stated at that time, 40 Banner, 40 Invincible and 20 Acme machines, with complementary machinery, including ribbers, loopers, singeing machines, etc., will be installed. Contracts have been awarded.

*Tennessee, Clinton. The new sulphur dye house being erected for the Magnet Knitting Mills, will cost about $2,000, and the equipment of dyeing machinery will represent an investment of about $3,000. Building will be 40 by 75 ft. of brick construction. Full particulars were given in June.

Tennessee, Maryville. It is reported that the Maryville Hosiery Mills are considering plans for installing machinery for driving the plant by electricity. Seamless half hose is manufactured on 25-latch needle knitting machines.

*Tennessee, Rockwood. The capital stock of the Rockwood Mills has been increased from $40,000 to $100,000, and the equipment will be raised to 150 knitting machines, 100 ribbers and 4 sewing machines. J. F. Tarwater is pres., J. A. Ervin is treas., Garnett Andrews is manager and buyer, and and J. A. Huff is supt. Plant is operated by steam power, and operates a dyeing and finishing plant. J. P. Voorhees, New York, is selling agent.

Virginia, Portsmouth. For the purpose of increasing the output of his hosiery department and to accommodate the growth of his paper box factory and dye works, Jos. A. Parker, proprietor of the Bethel Hosiery Mill, will shortly erect a large plant at the intersection of High St. and the Belt Line Railway. R. C. Biberstein of Charlotte, N. C., has prepared plans and specifications for the new mill and bids are being asked for the erection of buildings, which will be of brick construction. A three-acre site has been purchased. The main knitting mill will be 2 stories high, 60 by 160 ft., dye house, 2 stories high, 40 by 115 ft., and the boiler and engine house will be 50 by 60 ft. The mill will be operated by electricity. Upon the completion of the new buildings the equipment of the present plant on Crawford and Columbia Sts. will be moved to the new space. It is stated to be Mr. Parker's idea to operate his box factory in

connection with the hosiery mill and dyeing will be done for the trade.

Mills Starting Up.

*Massachusetts, Methuen. Manufacturing has been resumed at the plant of the Lawrence Knitting Co. The mill was shut down in July.

Pennsylvania, Philadelphia. The Allen Hosiery Mills, 4949 Mulberry St., Frankford, manufacturers of women's seamless hosiery on 10 knitters, which has been shut down for some time, is again in operation and reports a good business. The production is sold through New York.

Pennsylvania, Reading. The plant of Harry Hahn, 132 Orange St., has resumed manufacturing after a suspension of two weeks.

Virginia, Norfolk. Repairs in the plant of the Norfolk Knitting Co., which were started on the shut down of the plant in June, have been completed and manufacturing has been resumed. Plenty of orders are on hand to keep the mill busy full time for several weeks.

Virginia, Norfolk. The Berkeley Knitting Mills, Inc., have started up after being closed down for several weeks. About 125 persons are employed. This plant is now being operated by M. Lankford, receiver.

Virginia, Portsmouth. The Tidewater Knitting Mills, Wm. Sloane & Co., proprietors, which have been practically closed down for several months, have resumed manufacturing. Boys' fleece lined underwear is manufactured on 6 sets of wool cards and 60 knitting machines.

Mills Shutting Down.

Tennessee, Dayton. The branch plant of the Richmond Hosiery Mills at this place has been discontinued and, it is understood, will be dismantled and the machinery removed.

Facts and Gossip.

Massachusetts, Ware. It is reported that a knitting mill, which will give employment to about one hundred hands, will be located at this place. C. J. Schoepenheur of Buffalo is interested in the project.

New Jersey, Beverly. It is reported that Turner Birkhead is arranging for the installation of knitting machines, about 45 in all, for the manufacture of high grade hosiery, in one of the vacant factory buildings in this town. It will be remembered that Mr. Birkhead was formerly proprietor of the Beverly Hosiery Mills, which were declared bankrupt some time ago.

New York, Cohoes. Some departments of the Roff Underwear Co. have begun to run nights. A number of additional hands have been put to work.

New York, Hamilton. The Hamilton Hosiery Mills have been incorporated with capital stock of $30,000. W. W E., H. P. and F. E. Nugent, all of this place, are the incorporators. It is probable that the corporation takes over the knitting business of Wm. Nugent.

New York, Wappinger's Falls. The Dutchess Co., Inc., denies the report to the effect that a new building will be added to the plant.

Pennsylvania, Allentown. Henry S. Gabriels' Sons, manufacturers of hosiery and bleachers of knit goods, who failed two or three years ago, have recently been discharged as involuntary bankrupts.

*Pennsylvania, Dauberville. Titus L. Seidel advises that at the present time he cannot say when the branch plant at this place will be started. Mr. Seidel is proprietor of the Colonial Hosiery Mill, 810 Windsor St., Reading, Pa.

Pennsylvania, Philadelphia. The new Marion Hosiery Mills, at 11th and Roy Sts., are reported as having been shut down and the machinery removed to the main plant of the Marion Mills (the proprietors of the plant) located at Lehigh Ave. and Mascher St.

Pennsylvania, Philadelphia. Joseph Gilfillan, receiver for the estate of the late Thomas Caves Sons, manufacturers of ingrain carpets, has sold the five-story building, formerly occupied by them on Third St., below Huntingdon, to Hugh M. Nelson for the sum of $59,000. The assessed valuation of the property is $45,000.

Pennsylvania, Reading. The Reading Cotton Mills, owned and operated by Garner & Co., with Ellis H. Castor as superintendent, on shirtings, sheetings and twills, with 17,216 spindles and 412 looms, have returned to full time. The product is sold through their New York office at Worth St.

Pennsylvania, Rothsville. Articles of incorporation have been filed at Harrisburg by the Rothsville Knitting Co. The capital stock is $10,000. This probably refers to the Rothsville Knitting Mills of this place, manufacturers of seamless hosiery and half hose on 50 latch needle knitting machines.

Tennessee, Chattanooga. The branch of the Richmond Hosiery Mill at this place is now known as the Chattanooga Knitting Mills in place of Mathis & Davis Hosiery Mills. Albert Hitchcock has succeeded W. H. Shepherd as superintendent.

Tennessee, Chattanooga. The Southern Sockery Co. has been incorporated to sell hosiery and may establish a knitting plant in the near future. Capital stock is $5,000. E. E. Hogue is president.

Wisconsin, Neenah. The interest of a number of local stockholders in the Jersild Knitting Co has been bought by M. A. Sorley. Mr. Sorley has been elected secretary of the company.

Personals.

J. B. McKaig has accepted the position as overseer of knitting at the Danville Knitting Company, Danville, Va.

C. P. Mosher of Lowell, Mass., has recently accepted the position as overseer of spinning at the Standard Hosiery Company of Philadelphia.

A. S. Riviere has taken the position as overseer of finishing at the Hygienic Fleece Underwear Company, Philadelphia, Pa.

New Machinery and Processes.

This department is designed to present from month to month a brief mention of new machinery, devices and processes being brought out in this country and abroad, that are of interest to textile manufacturers. It is not a list of patents, but of improvements coming on the market. The idea being to present to our readers a systematic monthly record of new machinery etc., of interest to textile mill men.
We invite machine builders and others to send us such information for this department.

Lock Stitch Sewing Machine. The Standard Sewing Machine Co., Cleveland, O. A high grade lock stitch sewing machine described in another part of this issue.

Cloth Spreader. The American Finishing Machinery Co., 45 Milk St., Boston, Mass. An improved cloth spreader for finishing machines. The cloth is spread by the action of brushes, the bristles of which project from the center to the nearest selvage.

Circular Loom. A. E. Chernack, 280 Dover St., Boston, Mass. A circular loom for weaving tubular fabrics such as fire hose, flexible electric conduits, etc. The machine can be seen in operation at the above address.

Ring Spinning Frame. Martinot & Galland, Bitschweiler, Germany. A ring frame in which the spindle is vibrated in an opposite direction from that of the ring rail in order to obtain a better cross wind, and prevent the slipping of the yarn from the cop or bobbin.

Braiding Machine. Kurt Schmiede, Stuttgart, Germany. A braiding machine for round spindle banding. A saving of labor, time, floor space and material is claimed for it, the production varying, it is stated, from 1,000 to 2,000 yards per day, according to the size of the band.

Dobby Motion. Gebrueder Staeubli, Horgen-Zurich, Switzerland, recently placed on the market an improved dobby motion for narrow fabric looms which, it is claimed, offers a number of advantages over the ordinary type.

Twist Changer. Franz Zettler, Muenchen, Germany. A device by which a mule cylinder can be reversed quickly in order to change the direction of the twist.

Ring Frame for Woolen Yarn. J. Marx & Co., London, E. C., England. A spinning frame for spinning woolen yarn direct from the condenser spool. A porcupine roller is placed between the middle and front drawing rollers. It is stated that the machine is well adapted for spinning both wool and cotton waste.

Slide Rule Yarn Calculator. E. C. Holdon, C. E., Oxford St., Bolton, England. A slide rule especially adapted for yarn calculations, including those for determining the production of mules on different counts of yarn, allowances for doffing, broken ends, stoppages, etc.

Cloth Shear. Kettling & Braun, Krimmitschau, Germany. A cloth shear in which the blade is set in a diagonal position in reference to the cloth.

Coupling for Driving Drums. Howard & Bullough, Accrington, England. An improved coupling for spindle driving drums, which is the invention of Alfred Hitchon of the firm of Howard & Bullough.

Sizing Machine. Knowles & Co., Manningham, Bradford, England. An improved warp sizing machine in which the warp is dried while exposed to hot air in a high vertical chamber.

Singeing Machine. The Societe Anonyme Electro-Textile, 149, Rue de Rome, Paris, France. A machine for singeing yarn in which the heat is obtained by an electric current.

Spinning Woolen Yarn. Oscar Schimmel & Co., Chemnitz, Saxony. A continuous spinning machine adapted for woolen yarn which it is stated has been tested under mill conditions.

AN IMPROVED CLOTH SPREADER.

"We have been using this spreader for nearly two years and it has given us perfect satisfaction. It is one of those things which prompt the question 'Why was it not thought of long ago?' "

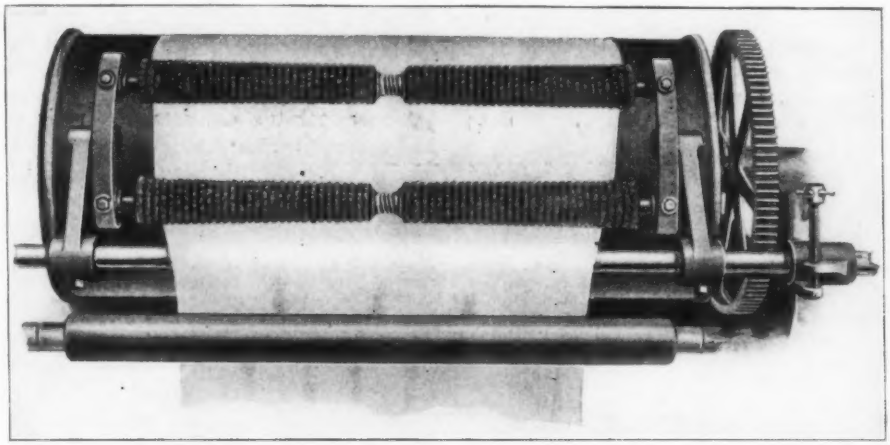


FIG. 1.

These are the words spoken to us by the manager of a mill at which we recently saw in operation the new cloth spreader built by the American Finishing Machinery Co., 45 Milk St., Boston, Mass. We recognized the full force of his statement as soon as we had watched the spreader running. As shown at Fig. 1 it consists of brushes so arranged that the bristles project on either side from the center toward the selvage. The cloth passes under these brushes and the spreading force of the machine increases with the pressure with which the rollers are brought against the cloth. The operation of the brushes will be evident by a glance at Fig. 2, which shows one of the brush sections which form the spreading roller.

This roll is revolved by the friction of the cloth and the bristles occupy the natural position until they come in contact with the moving fabric; then the tendency is for them to be deflected still farther toward the selvage. This process is effected over the entire width of the cloth resulting in a high spreading power with a very light pressure on all parts of the cloth. The spreader is built to accommodate three brush rolls, but it has been found that two are sufficient for practically all purposes. It makes the use of tenters unnecessary for spreading purposes in feeding to drying cans.

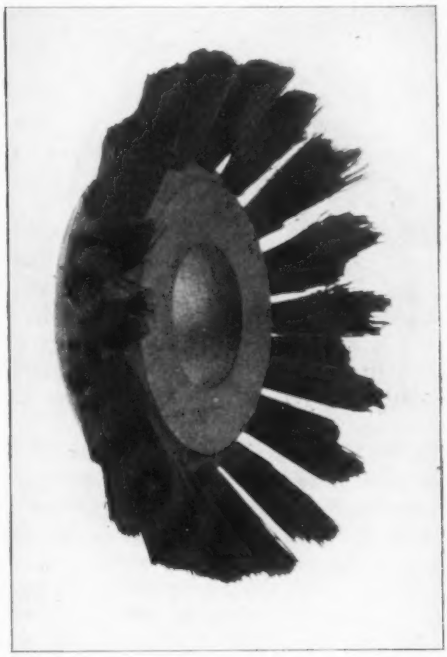


FIG. 2.

This machine has been in use in American mills for a number of years, the following

being some of the plants where it is in operation: United States Finishing Co., Apponaug, R. I.; Aspinook Co., Jewett City, Conn.; Cheney Bros., South Manchester, Conn.; Danvers Bleachery & Dye Works, Peabody, Mass.; Farwell Bleachery, Lawrence, Mass.; Glenwood Works, Medford, Mass.; Lowell Textile Co., Lowell, Mass.; Mass. Cotton Mill, Lowell, Mass.; Merrimack Mfg. Co., Lowell, Mass.; The Jewett City Textile Novelty Co., Jewett City, Conn.; The Pond Lily Co., New Haven, Conn.

Nearly all of these concerns have testified to their appreciation of the spreader by giving duplicate orders. We are informed by those using the new spreader that the brushes last for a long time and that replacing them is a trifle compared with the advantages obtained by the use of this spreader over the old type.

THE CARRIER AIR CONDITIONING SYSTEM.

Negotiations which have been in progress for several months have been consummated whereby the Carrier Air Conditioning Co. has purchased of the Buffalo Forge Co. all the latter's rights for the sale of the air washers, humidifiers and humidity controlling apparatus which the latter company has been manufacturing under the Carrier patents.

The Carrier Air Conditioning Company's general offices are located at 39 Cortlandt St., New York. Mr. J. I. Lyle, who for the past nine years has been the manager of the New York branch of the Buffalo Forge Co., has resigned his former position and assumed his duties as general manager of the Carrier Company on August 1.

Mr. W. H. Carrier, the inventor of the systems of humidifying and humidity controlling bearing his name, will be retained as consulting engineer by the Carrier Air Conditioning Company.

This company has a large field of operation as their apparatus is adapted for dehumidifying as well as humidifying and for either cooling in summer or heating in winter and their system of humidity control is commendable for its simplicity and accuracy.

This system is adapted equally to summer and winter conditions, using the same apparatus. It humidifies and cools in summer by artificial ventilating with cold saturated air and humidifies and heats in winter by first saturating the air at the proper temperature, and then heating the air after saturation to a temperature sufficient to maintain the required temperature and humidity conditions in the room.

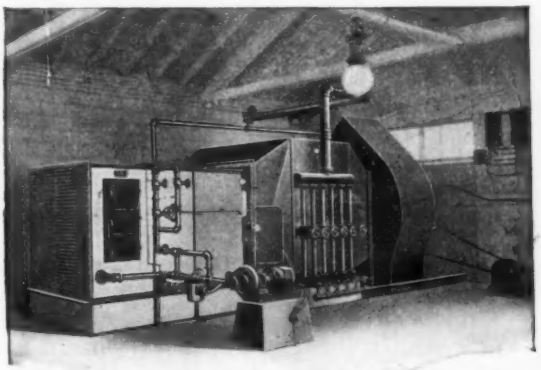
The apparatus consists of an air washer and humidifier, fan and heater and a system of ducts for the distribution of the humidified air. The humidifier consists of a large chamber in which spray is atomized under pressure by means of a large number of cyclone nozzles.

The spray nozzles, though most effective, are very simple in construction. The water enters a small circular chamber tangentially, which gives it a whirling or centrifugal action. The outlet or discharge opening is at the axis of rotation. The approach to the discharge opening is conical shaped so the rotation or whirling speed of the water is greatly increased as it approaches the discharge. The effect of this arrangement is to give a most minutely divided or atomized spray which offers an enormous amount of surface for evaporation.

The construction of the nozzle is such that it is practically impossible to clog it with foreign material, the smallest hole being 3/32 of an inch in diameter, yet it throws a perfectly atomized mist by reason of the centrifugal principle upon which it operates. Although the discharge opening in the nozzles is much larger than those in general use, still every precaution is taken to insure the removal of any lint or dirt from the water before it enters the spray piping. The water passes through two strainers, one placed across one end of the settling tank located under the spray chamber. This strainer offers a very large surface and is made of No. 16 mesh copper wire screen. The suction connection to the pump is made at the end of the tank so the water must pass through this strainer before entering the pump. Over the top of this suction space formed between the strainer and the end of the tank is placed a cover to prevent any

dirt from falling in as the air passes over it.

In the pipe line between the pump and the sprays is placed a basket strainer. The screen, which is 24 mesh, is made in the shape of a bucket and is very easily removed for cleaning. The air drawn through this spray chamber is thus filled with an extremely fine mist in a large volume and thereby brought to the point of saturation. The free moisture is then separated from the air by an eliminator. The very difficult function of separating this finely atomized spray from the air current at high velocity is



INSTALLATION AT HUGUET SILK MILLS, WAYLAND, N. Y.

performed by an eliminator of special design. The form of this eliminator was determined by lengthy experimental investigations, and has now been in successful use for the past five years.

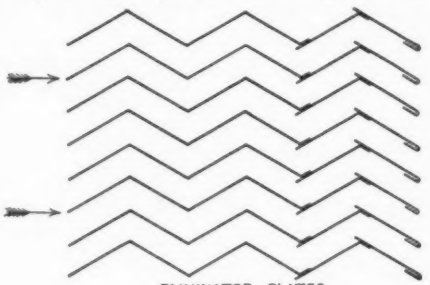
ELIMINATORS.

The eliminators are usually built of galvanized iron and are made up of a series of plates evenly placed and set in a vertical position across the discharge end of the spray chamber. It will be noted that each eliminator is made of a single sheet of galvanized iron so stamped as to form several corrugations, three of which corrugations having lips projecting. The plates are held together with galvanized iron angles at top and bottom and at intervals throughout the height so as to keep them evenly spaced. All rivets and bolts used in the construction of the eliminators are galvanized so that there is no chance of corrosion. Owing to the methods used in the forming of the plates and in holding them together, they are very rigid without excessive weight and are easily shipped.

The process of elimination is a double one. The first surfaces are covered with a sheet of running water precipitated from the spray laden air, against which all solid particles impinge and are washed down. The air then passes the corrugations with projecting lips, which prevent the free passage of water across the surface and form vertical gutters down which the water flows. Not the slightest trace of free moisture can be found in the air after passing through the eliminator, even with high velocities. The loss in pressure of the air in passing through the separator is inappreciable when standard proportions are used.

The fan and heater are of the usual design and need no special mention; the only variation from the standard being that the air is bypassed around the heater during the summer, thereby avoiding the frictional resistance of the heater.

Ventilation in a textile mill in summer is a necessity. If artificial ventilation is not provided then natural ventilation by opening the windows must be resorted to, for without ventilation to carry off the excessive heat, produced by the machinery and sun-



ELIMINATOR PLATES

light, it would be impossible for the operatives to withstand the very high temperatures resulting. The higher the temperature the greater the evaporation necessary to maintain a given percentage of humidity. So if ventilation was not resorted to, the number of sprays required would be enormous. When natural ventilation is used in summer to lower the temperature then the air must enter the room in a very much

drier state than is desirable, because on the hottest day the humidity is always comparatively low. Then if there is even a very slight wind it will give quite a variation in the distribution of the air in different parts of the mill. This incoming air must be moistened after it enters the room.

It is here that the Carrier system varies from the other systems on the market, as with this system the air is "conditioned" before, not after it enters the building. It is humidified, heated or cooled as may be required and this air is evenly and positively distributed throughout the building by means of a fan.

The cooling effect is produced by the evaporation of moisture. The hotter the day the drier the atmosphere, so the more moisture it will absorb, thus giving the greater cooling effect.

One of the most frequent errors one hears is the reference to the very high humidities of the hot summer days. It is true that in summer we often have mornings with temperature of 73° to 75° and at the same time a humidity of 90 per cent. or even more, but as the day progresses and the temperature rises, then the percentage of humidity falls. Take for example the past June and July in New York, a locality where the humidity is considered to be high. There were thirteen days on which the temperature during the day reached 85° or above. The highest temperature was 93° with 55 per cent. humidity on June 24th at 4 p. m.

The wet bulb temperature corresponding to this condition is 78 1/2. With the Carrier System all the air entering the mill in summer is saturated and cooled to the outside wet bulb temperature, the cooling of the entering air being due to the latent heat of evaporation of the water. In the above case the air could have been introduced at 78 1/2°. It is easy to see that if sufficient volume of this cool air is introduced, the mill temperature can be greatly lowered and the desired humidity obtained.

The average maximum temperature of the thirteen days mentioned above was 84 4/13° and the average humidity taken at the same time was 52 per cent. The wet bulb for this condition is 74 1/2°. The maximum percentage of humidity when the temperature reached 85° was 68 per cent., equal to a wet bulb temperature of 76 1/2°. From the above it may be seen that the air could be introduced into the building during the hottest part of the day at an average of 14° and under the worst condition for the hottest part of the day at 8 1/2° below the outside temperature.

In winter although there is less moisture contained in the air the raising of the humidity is a very simple and easy matter as most of the air is returned from the building and passed through the humidifier and conditioned before being introduced into the room. Steam is used for heating the water in winter and this heating is done by means of a small ejector, the admission of steam to the ejector being only that which is sufficient to heat the air to a point where it will carry enough moisture to maintain the desired relative humidity in the mills.

This control of amount of steam required in winter and the amount of air returned from the building to be mixed with fresh outside air is done automatically by the Carrier humidity controlling apparatus which will be described in a separate article.

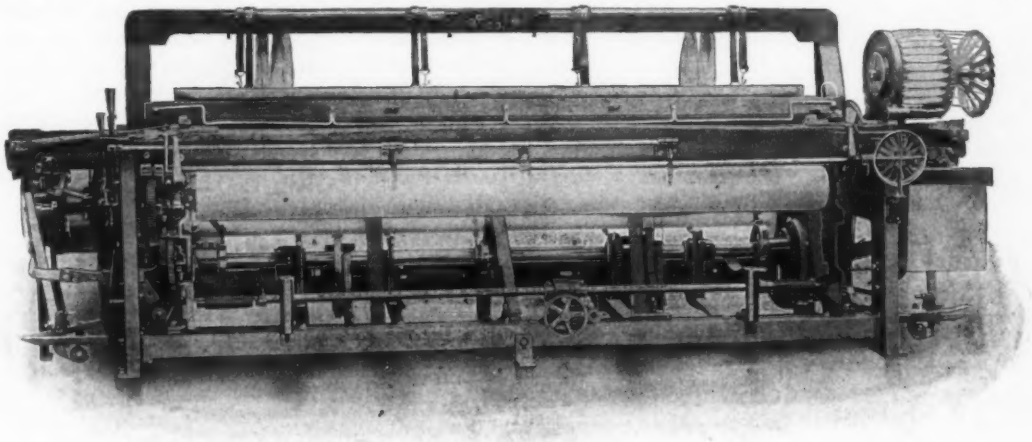
Among the successful installations made by this company may be mentioned the following textile mills: Chronicle Cotton Mills, Belmont, N. C.; Botany Worsted Mills, Passaic, N. J.; Lowell Cotton Mills, Lowell, N. C.; Klots Throwing Company, Laconing, Md.; Klots Throwing Company, Scranton, Pa.; Peerless Mfg. Company, Lowell, N. C.; Dudley Shoals Cotton Mills, Granite Falls, N. C.; Huguet Silk Company, Wayland, N. Y.; Farr-Alpaca Company, Holyoke, Mass.

The greatest enemy of the piece-dyer, as regards stains, is the sizer who is always trying all sorts of new sizes, and stains appearing on dyeing can usually be traced to him. —Leipziger Faerber Zeitung.

The cotton production of the world for mill consumption was 16,512,185 bales of 500 pounds each in 1907, compared with 19,942,000 for 1906. United States furnishing 10,882,385 bales.

THE DRAPER L MODEL LOOM.

The illustration shows the L Model broad sheeting loom built by the Draper Co., Hopedale, Mass. The loom was specially designed for this class of work, and is in operation in a number of mills. The parts are built with plenty of stock to avoid breakage; the filling battery can be any one of our regular patterns; the drive is by friction pulley with auxiliary gearing. A high roll take-up is used; compound let-off with double beams; and twine harness mechanical warp stop-motion. The shipping mechanism



DRAPER L MODEL LOOM.

can be operated by one finger. There is an attachment reaching across the front of breast beam so that it can be started or stopped without the weaver walking back to the shipper handle.

It is stated that this loom starts in the mill with as little trouble as an ordinary narrow loom, whereas, with common broad looms it has always been the rule to take several months for the looms to settle down to good running condition. There are in operation in the mills 1,850 looms of this model and the builders have recently booked orders from several of these same mills calling for over 500 more.

Report from one of their traveling men shows as high as twenty of these looms being operated per weaver, the weaver filling his own batteries.

AN IMPROVED ELECTRIC HYDRO-EXTRACTOR.

In recent years the advantages and economies of individual electric motors, applied to all kinds of machinery have become well established facts and no industry has been quicker than the textile to recognize the reality of these advantages and economies.

Realizing the many advantages of a properly designed electric driven hydro-extractor, Dienelt & Eisenhardt, Inc., of Philadelphia, have developed and added to their well known line of steam and belted machines, a line of electric hydros in which all the objectionable features present with the use of leather cones, belting and dirty steam parts are entirely eliminated. As the result of three years of actual service and improvement, this type of hydro-extractor is now offered by the builders as a thoroughly practical and satisfactory machine.

As will be noted in the accompanying illustrations the construction is extremely simple and possesses many advantages over the older types. Fig. 1 is a cross sectional view of a direct current type of extractor and it will be noted that the lower portion comprising the basket and tub is of the usual standard construction, including the hardened pin and revolving disc type of step bearing. The main shaft extends through the basket and a top bearing of ample size

above which it is coupled to the shaft of the motor armature which is directly in line with it. The stationary portion of the motor is supported by a substantial extension of the tub casting and this extension arm also supports the top basket bearing and the motor starting devices. As this arm extends from one side of the tub only, the basket can be loaded and unloaded from almost any point on its rim.

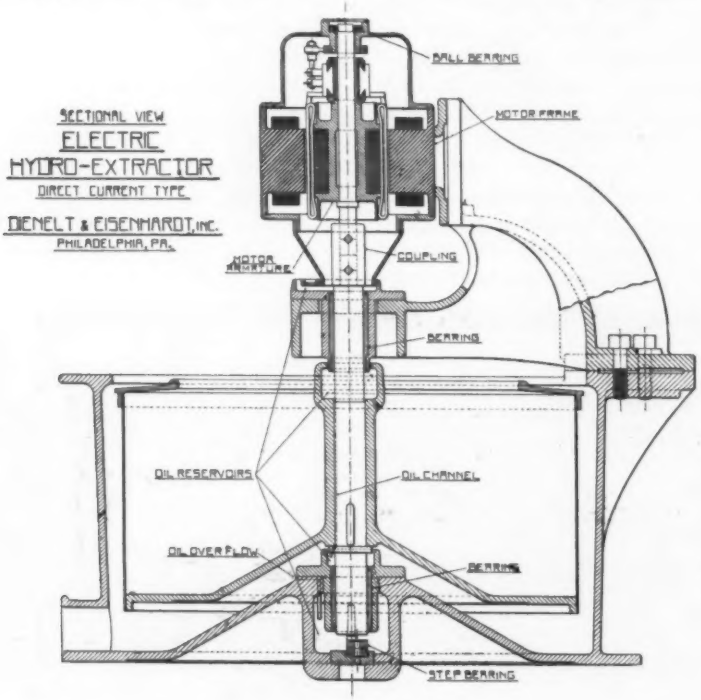


FIG. 1.

The baskets can also be made with lidded openings in the bottom if it is found desirable to drop the dry material through the tub bottom to a lower level. The top motor bearing is a self lubricating type of ball bearing and throughout the entire machine it is not possible for any oil or grease used for lubrication to work its way into either the motor windings or the basket. All the oil fed to the bearing above the basket passes through the bearing to a reservoir below it from which it feeds the lower bearing through a slot in the shaft, after which it accumulates in the reservoir surrounding the stop bearing and all overflow is led into the bottom of the tub and is carried off with the drips.

In the alternating current types the motors are provided with two ball bearings, one above the rotor and one below, and the motor shaft is joined to the basket shaft by means of a coupling of novel design.

FIG. 2.

This prevents any of the side motion of the basket shaft, due to wear of the top basket bearing, from being transferred to the motor shaft which in this type of motor must always be exactly central with the stationary part of the motor.

Both direct and alternating current extractors are provided with a friction brake for stopping the basket. The direct current type can also be equipped with a simple inexpensive electrical device for the same purpose.

Fig. 2 is a general view of the complete machine. The absence will be noted of all the usual power transmission devices such as leather cones, belting, gearing and disc wheels, also of side or top steam engines with their usual steam fittings and cumbersome supporting arms. The electric extractors are made in three sizes, 30, 36 and 42 inches and the baskets can be made in any style which may be desired. For simplicity of construction, minimum repairs and quiet, clean, efficient operation these machines are claimed to satisfy the most exacting requirements of manufacturers.

A CAM ADJUSTING MECHANISM.

A mechanism for adjusting the cams of knitting machines has recently been patented and is described by the inventor as follows: The object is to provide an adjustment which will enable the operator to adjust the cam positively either inwardly or outwardly, and one which will indicate the position of the cam and the degree of adjustment effected; also to provide an adjustment having means whereby the cam may be locked securely in position.

Fig. 1 is a plan view of a dial cap with the cams indicated in dotted lines and showing the improved adjustment. Fig. 2 is an end view of the dial cap partly in section. Figs. 3, 4 and 5 are detail views.

The cam is located on the underside of the dial cap to which it is pivoted. A screw is connected to and extends upwardly from the free end of the cam, passing through an opening in the lower portion of the dial cap and through an enlarged recess also formed in the dial cap and opening through the top. In this recess, which is of a circular form, a disk is fitted so as to rotate. This disk is provided with a notch extending radially inward from its edge, and in which the upper portion of the screw extends. This screw projects above the disk and has a head bearing upon a washer, which in turn bears upon the upper surface of the disk. This adjusting block is also provided with a kerf extending across the top.

In order to adjust the cam the clamping screw is loosened and then by inserting the end of a screw-driver into the kerf the disk or block is turned and the walls of the notch or slot bear upon the side of the screw and shift the screw, moving the free end of the cam until it has been properly adjusted, when the parts may be locked in adjusted position by tightening the screw clamping the parts in position. The screw is eccen-

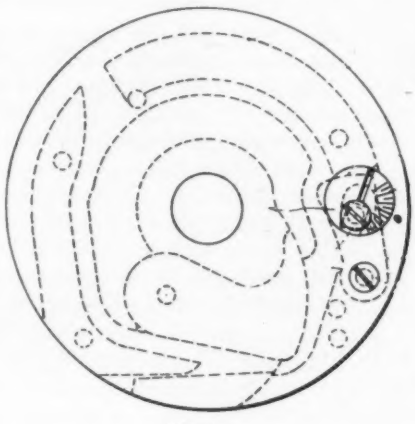


FIG. 1.

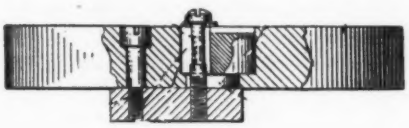


FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

trically positioned in relation to the disk and a rotary movement of the disk readily effects the inward or outward movement of the screw in relation to the center of the dial cap, and consequently adjusts the cam inwardly or outwardly as desired.

The adjusting block is moved positively in either one direction or the other and thus the cam may be adjusted by a positive movement in either direction. In order to show the extent of this adjustment and also to indicate the position in which the cam lies, a scale is provided upon the circular adjusting block or disk and a zero mark is placed upon the upper face of the dial cap adjacent the adjusting block so that however slight the adjustment of the circular block may take place the scale will indicate the extent and the position of the cam.

The adjusting block or disk lies with its upper surface flush with the upper face of the dial cap and wholly within the thickness of the said cap and back from the edge, thus leaving the edge free from projections and permitting the use of a needle protector close to the needles and to the outer edge of the dial cap.

THE ONLY REMEDY.

The Textile World Record for June cites a number of instances of "false packing" in Ohio and Pennsylvania wools. The first and probably the worst abuse, from the standpoint of the manufacturer, is the use of sisal twine. A photograph of 11,000 sisal fibers from one day's product of a worsted mill is presented. Every fiber must be picked out of the cloth by hand, and if it does not ruin the piece of cloth it necessitates costly labor or the allowance of an eighth of a yard of cloth for each fiber. A photograph of 121 feet of twine from an Ohio fleece is given—weighing about half a pound. Another shows a specimen of the twenty-two sheep tails found in a fleece of wool grown on the border of Ohio and Pennsylvania, leaving us in doubt as to which state can claim the genius who realized so well on them. A stone weighing seven pounds was found in one fleece. This must have been taken in by one of the innocent buyers employed during the boom. A lady's garter found in another fleece may have been evidence of carelessness but hardly of fraud.

In discussing remedies for this evil of false packing the Record says: "In order to effect a permanent reform the widest publicity should be given to the abuses, their dishonest character exposed, and a public sentiment awakened that will not only place corrective laws on the statute book but compel their enforcement. In accomplishing this result we believe none will be more ready to co-operate than the great majority of the wool growers themselves, who are as desirous as any class of producers of ridding their trade of the black sheep and stamping out dishonest practices, not only because they are dishonest, but because honest methods pay best in the end."

In connection with these dishonest practices we desire to say that farmers are like all other classes of men. Some farmers will "load" their fleeces, "fill" their live stock or put the worst apples in the middle of the barrel, just as some manufacturers will use substitutes for wool in their "all-wool" goods or some dealers will use false weights or measures. But among all classes of men the greatest temptation to dishonesty is security from exposure or prosecution.

Most of the evils of wool packing can be cured by those who buy the wool. They can absolutely wipe out the sisal evil and they can stop most frauds by discrimination and due vigilance. This year the good of closer discrimination is already apparent. Very little sisal twine was used simply because buyers announced their intention of rejecting wool tied with it. Laws against dishonesty are all right; but as long as the method of buying wool makes it expensive to do right and profitable to do wrong wools will be falsely packed and poorly prepared. Ohio, against the wools of which much has been heard, has now a law against fraud in wool packing. It is inoperative and must be so under the "false buying" of wools.—The National Stockman and Farmer.

COTTON GOODS IN THE PHILIPINES.

The Manila Merchants' Association has issued a pamphlet giving comparative statistics of Philippine imports from the United States and other countries, and the imports from the United States into Porto Rico. The statistics are classified by products and under each head is given an estimate of what Philippine imports from the United States would amount to under free trade, the Porto Rican rate being taken as a basis. Following is the section of the report relating to cotton goods:

The following table gives the imports of cotton and manufactures thereof into the Philippine Islands for the calendar year 1906, with a comparison of the imports into Porto Rico of these articles from the United States and an estimate of what the value of the importations into the Philippines from the United States would have been had the same volume of trade per capita existed here as in Porto Rico and the same proportion of total imports come from the United States:

[Exclusive of United States Government supplies]

Article	Philippine Islands			Porto Rico from United States
	Total importations	From United States		
		Actual	Estimated*	
Raw cotton	$92,124	$90,101	.....	.....
Carpets	761	1	.....	.....
Cloth:				
Closely woven	3,456,841	441,313	.....	.....
Loosely woven	1,110,837	29,879	.....	.....
Knit Fabrics	772,425	9,540	.....	.....
Quiltings and Piques	9,626	61	.....	.....
Tulles and laces	45,336	177	.....	.....
Velveteens, etc	8,830	33	.....	.....
Waste	12,553	1,557	.....	$4,634
Wearing apparel	57,368	12,530	.....	425,738
Yarn and thread	1,251,194	1,852	.....	16,009
Unbleached	.....	.....	.....	411,311
Bleached	.....	.....	.....	528,706
Dyed, colored or printed	.....	.....	.....	1,644,968
All other	257,595	13,845	.....	646,881
Total	7,075,490	600,889	$29,425,976	3,678,247

*If same amount per capita as Porto Rico.

Imports of manufactures of cotton into Porto Rico from the United States, fiscal years 1901 and 1906.

Article	1901	1906
Cloths:		
Colored	$659,725	$1,220,247
Uncolored	510,661	371,230
Wearing apparel	101,701	279,650
All other	112,794	547,994

The figures of imports of cotton cloths for 1906 are in excess of those for 1905 by over $300,000, but the imports from the United States declined $175,000. This is attributed to the unfavorable operation of the cotton schedule in the Philippines Tariff of 1905, which amounted, in effect, to discrimination against the most important of American manufactures of cotton that are generally used here. This accidental discrimination was corrected by an act of Congress which was approved February 26, 1906, and the fiscal year ended June 30, 1907, showed a recovery in the trade from the United States. Great Britain has always furnished most of the cotton textiles imported into the Philippines.

The Philippines, like all tropical countries, are comparatively large users of cotton goods. During the period 1890 to 1894, which is the last under Spanish rule of which authentic record is available, the annual importation of cotton goods averaged $5,902,578, which was more than 35 per cent. of the total of all imports.

A study of the imports of cotton goods into Porto Rico from the United States proves very suggestive of the possibilities for this trade in the Philippines. Prior to the war with Spain, the United States sold a very small amount of the cottons that were imported into Porto Rico. At the present time she practically controls that trade. Under the same trade arrangements that Porto Rico has with the United States, the Philippines would soon be consuming as much per capita as Porto Rico is now doing and American manufactures would exercise the same control of the Philippines trade as they are now exercising in that of Porto Rico.

With a trade approximating nearly thirty millions of dollars in cotton goods in the Philippines, American manufacturers would be warranted in maintaining depots in Manila for supplying this trade, from which they would also be able to reach the trade of China. It is obvious that the prestige of American cotton goods would be greatly increased throughout the Orient by having a base of supply in Manila.

Dyeing, Bleaching, Printing, Etc.

RESIST DYEING.

BY DR. LOUIS J. MATOS.

The term "resist" as formerly applied in the coloring of textiles was limited to certain processes used exclusively by calico printers for the production of certain effects not to be obtained by other means. One of the most generally applicable and well known processes made use of being to print upon the cloth some substance which when properly fixed would successfully resist subsequent dyeing, hence the name, which seems to distinguish the process in question from the reverse operation or "Discharge" process, which yields similar effects, but only after the goods have been dyed.

The present remarks, however, are for the purpose of explaining as fully as possible, and within the limits of a single article, the essential points of the so-called resist process as applied to yarns before weaving, thereby treating them in such a way as to resist the action of dyes in the boiling dye bath.

This process has been given considerable prominence during the past few months and many dyers have given it very close attention, some obtaining effects of a very high order, while others are still at work, hoping that, by their continued efforts, commercial results will crown their energies.

Resist dyeing is not a matter of any very great secret, nor yet is it a trick to be obtained by simply reaching out for it. If we carefully examine a series of fabrics of various shades showing the "resist effects," one thing will be forcibly impressed upon us, and that is that the "effects" are the result of a careful choice or selection of dyes which, while effectually dyeing the "effect threads," are not acted upon by the components of the dye bath, its colors, or its chemicals; nor are the threads themselves stained or dyed in the dye bath. Consequently, the process in the main is based almost entirely upon a proper selection of dyes or colors adapted to the coloring of the "effect threads," and which may be of wool, silk, or cotton, including mercerized cotton.

The principal object to keep constantly in mind by the dyer is that, whatever contrast color is applied to the cotton or other threads, it should not be at all affected by any subsequent process through which the cloth must pass, and particularly the fulling, and for this reason, the use of well made soaps should be insisted upon.

Colors employed for the resist dyeing of the threads besides the properties previously indicated should possess marked brilliancy, together with undoubted fastness to light.

TREATMENT OF WOOL THREADS.

The bath should be prepared in the proportion of 2 1/2 gallons of water for each one pound of yarn to be treated, and to which has been added from 3 to 3 1/2 ounces of pure tannin. The yarn is entered and boiled for two to three hours, then lifted and thoroughly squeezed, but not rinsed. Silk is treated in a similar manner, but the boiling is omitted, the temperature being kept just under 200° F.

FIXING.

As for ordinary cotton dyeing, the tannin must be fixed, which is most economically done by working the yarn for 1/2 an hour in a bath containing 3 gallons of water for each pound of yarn, and to which is added for each 10 pounds of yarn 1 1/2 pounds of any soluble salt of antimony or equivalent of tartar emetic. The temperature of this bath may be about 150° F. The tannin and fixing treatments are usually repeated once.

From the "Fixing Bath" the yarn is passed through a "Finishing Bath" containing for each 10 pounds of yarn, 5 ounces of tin crystals, and 5 ounces of muriatic acid. Work for 1/2 an hour at 120° F., lift, wash well and soap, when it is ready for weaving.

For dyeing these two fibers (silk and wool) dyes of the Acid Yellow, Fast Yellow 2 S, Cyanole Green, Formyl Blue, not to omit

some of the Direct group, are required, and the dyer may, by making proper combinations, secure many pleasing effects.

DYEING OF THE PIECE.

This is the process which taxes the skill of the dyer, and the very best results will always follow where the dyer experiments for himself and does not depend too much upon what others tell or show him.

The class of colors best adapted for this purpose are those which require a treatment with bichromate of potassium or fluoride of chrome in the dye bath along with the dyes, or after the greater portion of the color has been taken up by the cloth. The after chroming being rather an oxidation process, certain other groups of colors equally adapted to the process require only the addition of acetic or formic acid, rather as an aid to secure more level results than anything else.

Many of the so-called acid-alizarine colors lend themselves admirably to this style of dyeing, and a few have been used in excellent combinations. Black, however, appears to be the most difficult "color" to secure, leaving the "resisted" yarns clear and bright; this appears to be due to the fact that most blacks are combinations of other colors, some one of which is responsible for the staining of the "effect threads." If it is possible to procure a type black, made up of a base color, and with but small proportions of modifying colors, no doubt good results will be obtained.

The entire method of "resist" dyeing brings us back to the well known process of cross-dyeing, of which it is only an elaboration, and consequently any one giving it careful attention will readily see that the experience of cross-dyeing will stand to good advantage in attempting resist work.

Every dyestuff house has certain colors or lines of colors adapted to resist dyeing, and it is quite possible that every woolen mill dyehouse or laboratory has on hand samples of dyes representing the following groups:

I. Dyes adapted to the coloring of previously mordanted material.

II. Dyes which are applied to the wool in the usual manner, but after treated in a separate chrome bath.

III. Dyes which are applied to the wool in the presence of the mordant or fixing agent.

It stands to reason that any dyes which are to be fixed with chrome during or after dyeing must have no action on the resisted yarn or colors with which such yarn is dyed.

One thing is certain, and that this process of producing striped effects has come to stay, but at present, and for some time to come, dyers will experience difficulties which are not easily overcome, especially when they attempt to match given shades and combinations, produced by their competitors, and this without reference to any details of process.

Where a dyer originates a combination of colors, ground color and stripe, he has no obstacles to overcome, but anyone attempting to duplicate his work will find that it is not an easy matter.

If dyers interested in this work will experiment along the lines suggested above, dyeing and resisting silk, wool and cotton, then stitching threads of such yarns in white goods, and dyeing the ground color, they will obtain results of a practical character which can be used to advantage on a large scale.

For dyeing worsted thread effects, the following colors may be used:

Fast Yellow 2S.
Acid Yellow G.
Acid Blue.
Carmoisine R.
Biebrich Scarlet.
Imperial Red.
Acid Violet 4BNS.

For silk and thread effects:

Purmiline Red (dyed by usual method).
Chrome Fast Greens.
Chrome Blues.

It is fortunate that the ground colors are mostly mode shades of brown, slate, drab, grey, etc., and of various depths of shade from the lightest to the heaviest, and are mostly compounded with a blue, drab, yellow and red with the usual chrome treatment.

REMOVING FOG FROM DYE HOUSES.

(Continued from August.)

REPORT OF AN INVESTIGATION OF FRENCH DYE HOUSES.

[This investigation was made by two French engineers, Turin and Lassaux, under the direction of the Association of French Dyeing Industries (Union des Industries Francaises de la Teinture). Many dye works were visited in the course of the enquiry, which is of value to the American trade because the principles underlying the removal of fog are the same everywhere, although the problem may be affected by different local conditions. —Ed.]

Other factors influencing the solution of the fog problem relate to the apparatus to be used. In a future chapter we will learn that the removal of fog necessitates the use of heating and power plants. In most of the factories that we visited we noticed that the dye houses were provided with a steam supply suited to their production and without much margin. For this reason direct steam is not used to provide the heat for removing fog as in such a case an increase in the boiler capacity would be necessary. The exhaust steam of the engine can be used, but this means a marked loss of power. Moreover the condensed water from a number of machines in the mill having a heating power can frequently be utilized. If a chimney has a good draft the gases from the boiler can be used in case they are not previously passed through an economizer. Finally the exhaust heat from the work rooms can be used.

We will give here three examples: The first is the dye house of Monnet in Roubaix; the second, the Laval dye house in Reims; and the third, the dye house of Tugot at Clichy which was in the course of construction and where the hot air from the neighboring boilers was used.

Fig. 1 illustrates the method used in the Monnet dye house. An economizer, E, is

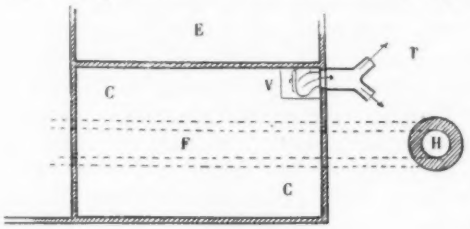


FIG. 1.

placed in the rear of the boilers, G. Between the two the room, C, is enclosed and serves for the storage of hot air. Directly under the floor of this room is a heating conduit which conducts the smoke to the chimney, H. In this way the air in the storage room is naturally heated both by the conduit and by radiation from the partitions that separate the room from the boilers and economizer. The hot air is then carried from the ventilator, V, into the dye house, T, which adjoins this plant.

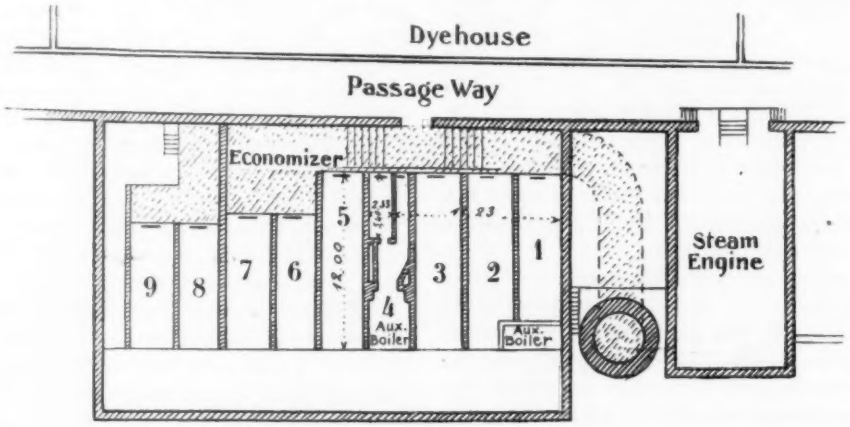


FIG. 2.

Fig. 2 shows the installation at the Laval dye house. An auxiliary boiler adjoins a room with a temperature of about 35° C. A large coil of pipes is installed through

which the air from this room circulates, and in case of necessity also the hot air from the adjoining boiler. A ventilator carries the hot air to a pipe which leads across a narrow passageway to the dye house.

Fig. 3 shows the fog removing plant at the Tugot dye house. The apparatus is installed in the room, C, adjoining the heating

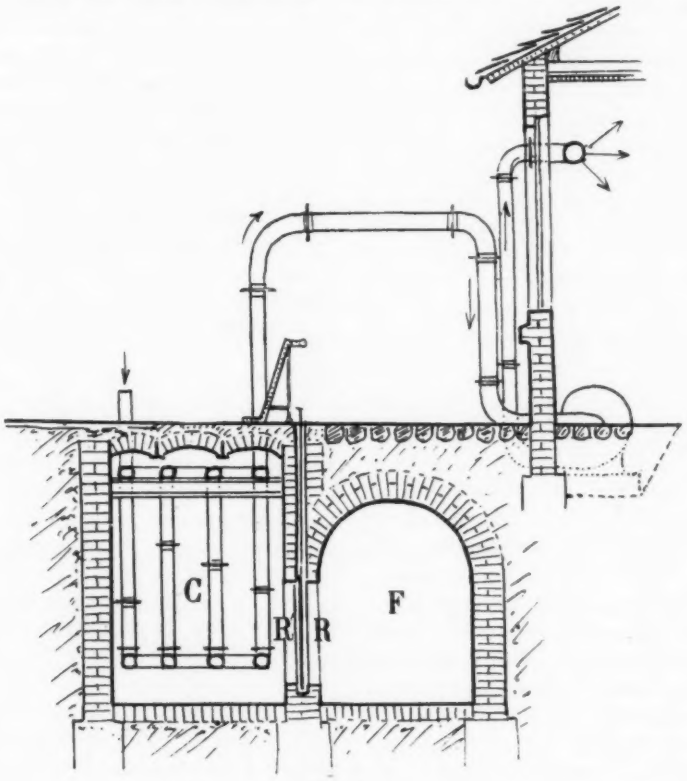


FIG. 3.

conduit, both of which are connected by valves, R and R', with the room above. In the room, C, is a coil of pipes through which the air circulates by means of a ventilator. After being heated in this way it is carried to the dye house. The difficulties connected with this installation arise on one hand in the selection of the metal for the coil which is to come in contact with the heating gases, and on the other, in obtaining a steady circulation of the gases in the room; and finally, in regulating the draft from the ventilator. Because of these difficulties such an apparatus must be installed with great caution. A number of manufacturers conceived the idea of utilizing the heat obtained by direct radiation from the boilers. To do this a hermetically sealed room over the boilers was connected with the dye house. This installation was made by Prof. Lagache, teacher of dyeing in the School of Industrial Arts at Roubaix. We inspected this installation in the dye house of Schaeffer & Co., Muelhausen, Alsace. We feel obliged to remark that owing to the extraordinary severity of the past winter the fog was but partially removed in spite of the small number of tubs compared with the cubic contents of the room. With 25 tubs the room had a capacity of 170,000 cubic feet. Moreover, there was a great deal of water collected by condensation. In our opinion this installation cannot be considered as offering a complete solution of the problem.

It is easily possible, however, to obviate these difficulties by suitable means. We will pass them by in order to call attention to a much more serious objection, namely, the loss of heat resulting from the passage of a current of cold air over the dome of the boiler. Prof. Lagache notices this objection and advances the claim that all other means of removing fog involve a marked consumption of fuel and that by the method he proposes the loss of heat cannot be excessive. We, however, are not of this opinion. It is well known that the saving of steam is one of the important points in dyeing, scouring, printing and finishing. Every effort must be made to reduce the steam consumption to a minimum. The loss of heat from boilers may be divided into four classes according to their causes, whether they arise from the nature of the fuel, from the air, from the boiler, or from the process of combustion. Among the losses that arise from the construction of the boiler an improper arrangement of the fire box, an insufficient area of the heating surface, a defective circulation of the water, and finally a defective boiler setting may be mentioned. The defects in the setting of the boiler may facilitate a reduction in the heat in the fire box and a radiation into the air. On an average these causes result in a loss of 5 per cent. of fuel. The losses are kept down to this amount by covering of the boiler and piping. If in place of such covering a current of cold air is passed over the boiler a loss of heat is unavoidable and we estimate that in this way the loss may easily be raised from the average of 5 per cent. to 10 per cent.

(To be continued.)

There are at Aachen several horseflesh butchers, who do a regular trade at price varying from 3 1/2d per lb. for soup meat to 5 1/2d for the best joints for roasting. The horse butchers complain, however, that their supplies are gradually decreasing, and one reason given for this is the substitution of electric for horse power in the tramway system.

A PROCESS OF MERCERIZING.

A patent has recently been issued for a process of mercerizing which the inventor describes as follows: A mercerized product of superior luster, strength and transparence may be produced by subjecting fibrous cellulose materials to the action of a crude solution of viscose, either before or during the ordinary process of mercerization by an alkali solution.

For the preparation of the crude viscose solution four ounces of cotton are treated for 24 hours with an aqueous sodium hydroxid solution of 21° Be. Two ounces of carbon bisulfid is then added and the mixture is allowed to stand in a tight receptacle for four hours. The resulting gum is dissolved by covering it with water and allowing it to stand 12 hours; enough water is then added to make two gallons of the solution. This constitutes the solution of crude viscose.

Equal parts of the crude viscose solution and of an aqueous sodium hydroxid solution having a density of 45° Tw. are mixed. The cellulose fiber, yarn or fabric, in a stretched condition, is subjected to the action of the mixture for, say, three minutes, and is then mercerized as usual, for example by treating it with an aqueous sodium hydroxid solution of 70° Tw. It is then washed with water and neutralized by a dilute acid solution.

By another mode of procedure, one part of the crude viscose solution is mixed with two parts of the ordinary mercerizing solution, to wit, an aqueous sodium hydroxid solution of 70° Tw., and the mixture is employed as a mercerizing reagent, in place of the simple alkali bath, the goods being treated in a stretched condition, washed and neutralized.

The improved results effected by this process are believed to be due to the extreme hydration of the cellulose fiber, due to the action of the concentrated alkali on the cellulose in the presence of the crude viscose, the hydrate groups in viscose being a very active chemical condition and the crude viscose solution containing, as by-products, trithio-carbonates and alkali-thiocarbonates in excess of the amount required to retain the viscose

in solution. The carbon bisulfid in the crude viscose solution may also act upon the cellulose to form thiocarbonates.

DYEING KHAKI.

In order to give our readers the benefit of an expert opinion as to the color of British and American khaki we submitted the samples received from the War Department to Daniel J. Carey, dyer at the Boston Mfg. Co., Waltham, Mass., with a request that he examine them and report the results of his investigation. His letter is as follows:

Waltham, Mass., Aug. 28, 1908.

Editor Textile World Record:

I received the samples of British and American khaki and also the clippings from the various English papers commenting on the color of American and British goods. While the English newspapers admit that the American fabric is superior, they all unite in claiming that the British goods are better because of the greater fastness of the color.

They claim that khaki dyeing is a secret that is not known to American dyers. They also claim that the American dyed goods are inferior in color, that it is not up to the requirements of the military as well as the English dye. I have given these samples a thorough test with the following results:

First. A test was made to ascertain if the samples submitted were a true khaki color and if they were dyed by the oxides of chromium and iron and developed by soda on the fiber of the cloth. It is well known that the real khaki color when tested with muriatic acid gives a greenish spot. I tested all three samples and found that they all showed the green spot on the muriatic acid test.

Second. In order to find out if oxides of iron were used, I tested them for iron with yellow prussiate of potash and on all three samples there appeared a blue spot, proving that all three samples, both English and American, were dyed by the same chemical, having the same color properties.

Third. Testing with the acids the American khaki seemed to stand the action of acids better. This I believe is due to the closer weave of the American goods.

Fourth. The test for fastness against sunlight and air was made in the open with the samples exposed to sun and weather. It can be seen by comparing the exposed with the unexposed parts of the samples, that the American khaki stood the sunlight as well as the English.

Fifth. The samples sent were rather small to make a thorough test in regard to washing and I do not see how any fair comparison can be made.

I am fully convinced that all three samples of khaki sent to me are of genuine khaki color and that the American goods will stand the test equally as well as the British goods. Many American dyers are of English birth and many of them learned their trade in Lancashire and are men whose reputation as dyers are as high as any. There is no secret in the dyeing trade today. The principles of dyeing are known to the dyers of all countries. The textile schools, the textile press and the literature of modern dyeing and chemistry have done much to wipe out the superstition of secrecy in the dyeing trade. Dyers who win success nowadays do not win on the lines of secrecy, but rather by hand work and careful study of those problems which are always before them.

We have everything here to dye with that can be had in Lancashire. Our mills pay higher wages to dyers than is paid in any other country. Dyers are here from all the countries of Europe. Our men have knowledge of the best methods on the other side by exchange of views and ideas. The result is that the knowledge and skill of the American dyer are kept up to the highest standards and are equal to those of the dyers in Lancashire or elsewhere. Daniel J. Carey.

THE CLOTH DRAWER'S CRAFT.

BY H. HI&LD.

(In the Dyer and Calico Printer.)

This is about the only branch of textile finishing for which there is no literature. Articles more or less comprehensive have been written on every process with the exception of the drawer's art, and text books ignore it altogether. As it is a handicraft which requires a long apprenticeship and skill in manipulation, recipes and formulae cannot be given.

Cloth-drawing is confined solely to the heavy wool textiles for men's wear, and is of such importance that every finisher employs one or more skilled drawers in his works. In the days of plain cloths prior to fancies, tweeds, and worsteds, the drawer was of much greater importance than at the present time, owing to the ease with which damages are repaired in fancy fabrics. The drawer gets his name from the operation of drawing together with needle and cotton the rent in the cloth. This, although a highly skilled performance, is only one out of many duties that fall to him. The cloth drawer used formerly to embroider in fancy colored silks on the headings of the piece such descriptions as "Extra Superfine," "Woaded Black," "Pure Indigo," and so on. These letters extended across the entire width of the cloth, and were elaborated with scrolls and ornaments of all kinds. Many drawers could embroider these designs without the aid of a

pattern and even without chalking out guide lines. Some of this hand work has come under the writer's notice that appears to have been executed by machinery. This branch of the drawer's art has been done

FIG. 1.

away with altogether, even on the best of material, and whatever lettering is now wanted is stamped with a brass or copper die.

Formerly all cloth-drawers had to serve a five to seven years' apprenticeship, and at the present day clever men in this branch

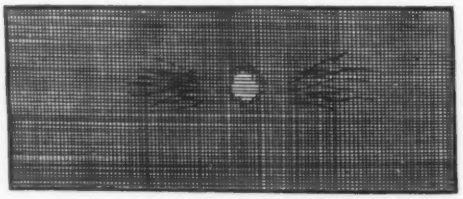


FIG. 3.

or raised cloth. This has to be done not only to repair the rent, but to make the mended place invisible so that the cloth appears perfect. To effect this, no stitches at all must are by no means common. The most frequent task of the cloth-drawer is the draw-

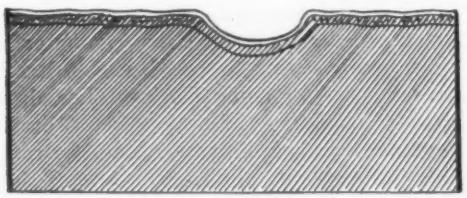


FIG. 5.

ing together of a clean tear or cut in a milled be visible on either face or back of the cloth. The drawer goes about it in the manner shown in Fig. 1. This represents a clean tear in a plain cloth, no ragged edges whatever being present. The black dots show where the needle is inserted; the dotted lines, direction of the stitches. In dealing with a simple case of this sort, it is imperative that the stitches should be buried inside the fabric; this is done by reinserting the needle in the same hole it came out of, meanwhile keeping the stitches slanted and close to-

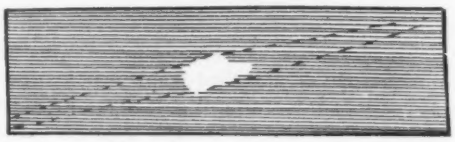


FIG. 2.

gether. It is hardly necessary to say that the edges of the slit must be drawn close up to each other, but not too far, otherwise a ridge or pucker would make it visible. After drawing, the application of a little water followed by a warm iron renders the mend in-

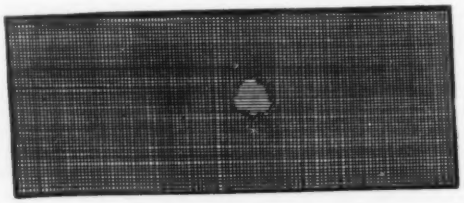


FIG. 4.

visible. In some cloths such as meltons, or heavy raised goods, the deft application of a bit of wire card, mounted on a stick, serves to draw over the nap to cover the place. In the generality of cases all drawer's work is done before the goods are pressed, so that

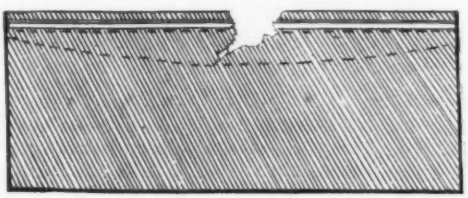


FIG. 6.

this latter operation helps to close up the fibers and makes the surface all alike.

In the case of a ragged hole as seen in Fig. 2, the procedure is slightly different, as shown in the diagram. In this the dotted lines show where a strip is cut clean out, leaving sharp edges which can be drawn close up to each other. The object of mak-

ing this long slit is to avoid the pucker which would be the invariable result of drawing the edges of a small hole together. If the cloth be damped for a few inches around the slit and ironed, the cloth can easily be stretched until the edges of the cut meet.

With worsted cloths drawing is impossible, since the edges fray so quickly and make it useless attempting to hide the stitches. Very small holes, however, in these cloths, say up to the size of a pea, can be mended by a skilled drawer, but the method is on quite different lines to that described. To repair a hole in a worsted fabric it must be filled in somewhat like the darning of a stocking, that is, the missing warp and weft must be put in with the needle in the same manner as the cloth is woven. This means the design must be copied and each thread pass over or below its neighbor so as to reproduce the lost part. Simple weaves such as twills are by far the easiest to fill in; while those which have long floating threads are most difficult. Speaking generally, those designs which more nearly approach the common basket weave are easiest to repair. Where all the warp is shown on the face the work is extremely difficult, and there is no use wasting time over a fault which will easily be noticed and strung.

The most common holes in worsted which are capable of being drawn up are those caused by weavers' knots. The knot itself is where a broken thread has been pieced together, and when these come under the blades of the cutting machine, a tiny piece is nipped out of the cloth. Small holes of this kind allow the pattern to be worked in by the needle, where larger ones would show. It is necessary to fill up the design with thread taken from the same piece of cloth, in order to get an exact match of color and material. This is done by carefully drawing out a few inches of the warp close up to one of the lists. The warp is always used to fill up the gap, as it is stronger and easier to handle, the weft being too tender to work. In commencing, the missing warp is always filled in first, inserting the needle about half an inch from the hole and burying the thread inside the cloth. After putting in the warp threads, the ends are left to project a little until all the threads are placed in position. When complete these loose ends are cut off close, and the application of water and an iron causes them to contract and bury themselves in the fabric. Both warp and weft threads are put in from the back of the cloth as being less likely to be seen, and care is taken that the needle enters and emerges a little distance away from the preceding thread. This precaution prevents the formation of a thick lumpy place, and distributes the threads over a bigger area. Figs. 3 and 4 show respectively the appearance of the warp threads from the face of the cloth after insertion, and the warp threads with their projecting ends on the back. Many drawers skilled to the faced and plain cloth trade are of no use whatever for the mending of worsteds, as this requires, besides good sight and a steady hand, a quick perception of how the design is formed in the weave.

Where the burling and mending of grey goods is carried on, this department, although worked by female labor, is frequently under the supervision of a clever cloth drawer. This arrangement is a good one, for if the man is fully up to his duties much unnecessary work can be saved as he knows what will and what will not show when the cloth is finished. Only a few examples of the work which comes under the drawer's hands can be given here; he is practically the textile surgeon for all structural defects which mechanical processes cannot put right. In burling and mending grey worsteds, it is customary for the drawer to pull these over a perch against a good light. Seen in this fashion missing warp threads which require replacing with the needle show up very plain. It is usual to mark these places with colored chalk to call the mender's attention; and this practice sometimes causes great trouble to the dyer. If ordinary crayons are used these marks easily come out in boiling; but it occasionally happens that crayons containing wax or grease are used. Wax is much worse than grease, since it does not saponify, and to the writer's knowledge many stains have been caused by the wax acting as a resist.

Other defects, such as over-raising, with a disturbance of the face of the cloth, may be cured in some special cases by damping the

fabric and working in very fine flocks, but this is only applicable to plain cloths with a rough finish. Fig. 5 shows a common finishing fault, caused by the cloth missing one of the hooks in tentering. This may be due to the pins being defective or a gill being missing, but the result is a semi-circular shrinkage near the selvage. The drawer is able quickly to make this right by damping the cloth all around the place and pressing with a hot iron, while at the same time he stretches out the gap to the normal width. The pressing which follows effectually covers up the place and makes it indistinguishable from the rest of the fabric.

Fig. 6 shows the method of dealing with a damaged selvage. In this case an irregular jagged cut has been made through the list and into the cloth. To cure it, a long slanting piece is cut out through the dotted lines; the list is also carefully cut off on the lines shown. Then the list is neatly sewn on again and the semi-circular place pulled into position. Should the list require supplementing, a little is cut from one end of the cloth, where its absence is not so conspicuous. Damages caused by tenter hooks running inside the cloth, as well as creases from running double, are all jobs for the drawer. These, with others of the same nature, can generally be cured by the local application of steam and heat, wool being very plastic under these influences. Apart from inserting missing threads, etc., in grey goods, the drawer's work is done after all the finishing processes, except pressing and steaming. This is highly necessary, as many processes, particularly the wet ones, would tend to disturb the mended defects by causing shrinkage in places. Missing warp threads are put in before either crabbing or dyeing, and a little loose end left to the thread to allow of its shrinking. Slubs, which are very thick irregularities in the threads, require very careful treatment in the grey. These are carefully thinned down with a pair of burling irons, so as to leave the substance of the thread behind.

Another very delicate operation is the covering of laid crimps in fine worsteds; this, of course, is only resorted to where the fabric shows these marks for a yard or two, say, at one end. Laid crimps are the dark crease-marks which sometimes are formed when the cloth is allowed to lay while hot. These are no detriment whatever to the cloth, nor do they show when made up into garments. Over the perch, however, they appear as thin dark lines across the fabric in all directions, and their presence may cause a string to be put in. To cover these the drawer carefully goes over each crimp with a pencil of French chalk having a very fine point. To do this successfully the cloth must be stretched out at full width over a perch, and a strong light and steady hand are requisite. The mark left by the pencil must not extend beyond the crimp itself or it will show and make matters worse. Just sufficient chalk is left on to bring the dark line to the shade of the adjacent part and no more. This can be done with any shade of cloth, but the application requires great judgment and skill.

A CONTINUOUS CLOTH EXTRACTOR.

A machine shown in longitudinal section at Fig. 1, for extracting liquids from cloth, invented by Ernst Gessner, of Aue, Germany, has been patented in this country. The following account of the extractor is

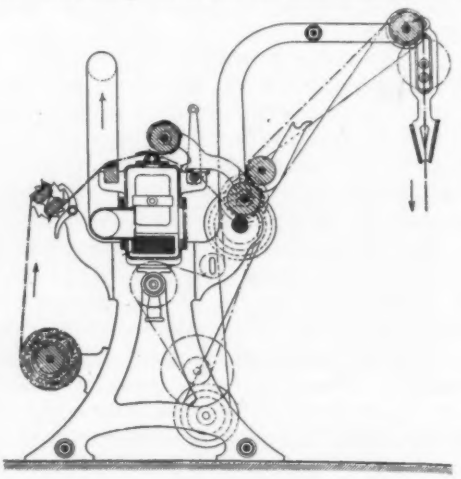


FIG. 1.

given by the inventor. The water extracting apparatus consists of an air and water exhaust on one side of the cloth, and a cover on the opposite side. A slot extends through the top of the vacuum chamber and

through the cloth-rest so as to present a slotted suction mouth to the cloth.

There is a longitudinal slideway intercepting this slot in which are mounted slides by which the operative length of the slot may be varied by the attendant at will to suit the width of the cloth being treated. The opposite ends of the vacuum chamber are provided with removable heads to give access to the interior.

There are two ports leading from the vacuum chamber, an air exhaust and a liquid exhaust, each of which is preferably protected by a perforated screen. The air exhaust port is located above the bottom of the vacuum chamber so as to be above any liquid that may accumulate in the bottom; the air exhaust is produced by an air pump connected with the exhaust or suction pipe.

Among the advantages claimed for this machine are the following: Liquid may be extracted uniformly and continuously; it may be accomplished without wrinkling or creasing the cloth; the varieties of cloth to which it is applicable are almost unlimited, including plush, velvet, skin imitations and face goods, also carbonized goods; in the case of face goods, the face is left in better condition; foreign substances and flocks are removed; a very large percentage, reaching as high, in some goods, as 60 per cent., of the liquid is removed, making the subsequent drying operation much more economical; the operation is simpler, less laborious and accompanied by less danger to the attendants.

THE SPONTANEOUS COMBUSTION OF DYESTUFFS.

BY BETA NAPHTHOL.

The question has arisen concerning the tendency of the general line of dyes, or any of them, as used in the ordinary course of work in the dyehouse to ignite spontaneously, or at least to inflame when brought in contact with chemicals.

I have given this question close attention, and records covering a long period have been examined to discover instances where fires in mills were caused directly by dyestuffs, but without any result, and consequently doubt very much whether any dyestuff per se could cause fire.

Certain groups of the so-called aniline dyes, to be specific, the nitroso and the nitro colors, might, under very abnormal conditions, and in the presence of concentrated sulphuric acid in small quantity, ignite and smoulder, and continue to smoulder for a long time, but repeated tests carried out under the usual conditions of the dyehouse have not shown any dangerous symptoms.

It has been claimed that certain other classes of dyestuffs show a tendency to ignite or to become overheated when stored under the usual conditions of the storeroom, but the statements made have been so conflicting that experiments were made for the purpose of ascertaining the exact conditions. The class of dyes above referred to belong to the group of sulphur colors, and come into commerce in the form of powder, coarse porous lumps, resembling coke, and in hard coal-like masses, some of which manifest a strong tendency to absorb moisture from the atmosphere.

The results of the preliminary tests show that the possibility of ignition, either by trickling water or acid is very remote, if not impossible, while "heating" due to chemical action between the acid used and the alkaline constituent of the mass was noticed in a few samples. Of course, nitrates and nitrites known to be rich in oxygen should not be classed as dyes, but should receive proper attention in storage.

I should like to have any readers of this article who may have had experience along the lines above mentioned, report their observations for the purpose of throwing all the light possible on the problem.

One point worthy of careful consideration in connection with the spontaneous combustion of dyestuffs is whether the corrosion of the tin or metal container from the outside might not have an influence. It is well known that minute particles of metal, in the presence of free oxygen, however liberated, are liable to ignite, and may possibly set fire to adjacent combustible material. This is mentioned as a suggestion only, but might serve as a side-light on the entire question.

FINISHING SILK THREAD.

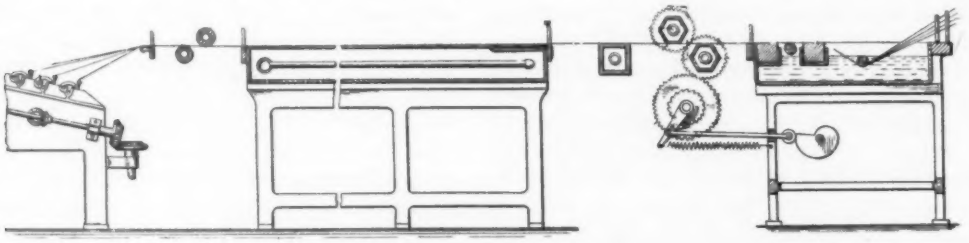
A machine for finishing silk thread, recently patented, provides means for immersing the thread in a suitable bath and then passing it over the hot surface of a long metallic table. This table dries the thread and at the same time imparts a high luster.

It has been found that with such an apparatus the threads are polished to a greater extent upon one side than they are upon the other, and the goods are apt to have a slightly mottled effect due to the fact that the lustered side of the filaments will sometimes appear on one side of the fabric and sometimes on the other. To overcome this, ironing devices have been provided for engaging the upper side of the threads as well as the lower sides thereof, and by this means a lustered effect is obtained on both sides of the thread, giving the finished goods a more uniform appearance. These ironing devices comprise short heated contact surfaces, and are arranged to engage the silk filaments either before or after they have traveled over the main ironing table, or they may be arranged at both ends of the ironing table, so that they engage the said filaments both before and after passing over the table.

Fig. 1 shows a vertical section of the machine. The filaments are immersed in a bath of suitable finishing material, passing then over wipers to a heated table, the upper surface of which constitutes the heated contact surface. The filaments finally pass from the table to a winding apparatus.

Between the bath and the approach end of the table, and in engagement with the upper side of the filaments, is an ironing member. This is heated by a steam pipe, and by engaging the upper surfaces of the threads will tend to act as a finishing means auxiliary to the table. An ironing member is also arranged between the rear end of the table and the winding device, which will also act as an auxiliary polisher for the upper side of the threads after they have been thoroughly finished on the under side by the steam table. The form of the ironer is immaterial. It is shown here as being round, and the other ironer as polygonal in cross section. Any desired form may be employed, the essential feature being the surface frictional contact of hot metal with the upper surface of the threads.

Because of the fact that the surface of the ironing means is apt to become fouled and dirty after a time owing to a deposit of material carried by the filaments, means have been provided for applying a step by step movement at intervals, so as to bring another surface into play after one surface has been employed for a certain length of time.



MACHINE FOR FINISHING SILK THREAD.

Defects in Bleaching Knit Goods.

Editor Textile World Record:

We were greatly benefited by the information given by "Hancock" in reply to our question (978) in your June issue regarding the bleaching of knit goods. We have obtained splendid results by following his instructions and are particularly enthusiastic over the efficacy of Danker & Marston's D. & N. bleaching assistant, which "Hancock" recommended. Garfield.

Color Cards.

Thiogene Bronze G; H. A. Metz & Co., New York. Six samples of raw cotton, piece goods and yarn dyed with different percentages of Thiogene

Bronze G, for which full working directions are given.

Fast Yellow R G; Farbenfabriken & Co., New York.

Sample of woolen goods dyed with 3 per cent. Fast Yellow R G. This dyestuff is very good for producing olives, browns and other dark shades required to be fast to light.

Brilliant Acid Blue: Farbenfabriken & Co., New York.

Two samples of worsted dress goods dyed with Brilliant Acid Blue A and V. Working directions are given.

Direct Black RC; Farbenfabriken of Elberfeld Co., New York.

Four samples of shoddy piece goods dyed with 5. 4 and 2 1/2 per cent. of Direct Black RC. This dyestuff is well adapted for the dyeing of half wool, i. e., for the dyeing of cotton, straw, etc.

Diamine Fast Black; Cassella Color Co., New York.

A folder containing ten samples of cotton yarn, mercerized cotton yarn, artificial silk, mercerized sateen, cotton goods, half silk, half wool and loose cotton showing results obtained by the use of Diamine Fast Black X N. This new dyestuff is exceedingly interesting for the dyeing of artificial silk, and of half-wool and half-silk goods. Working directions are given.

Navy Blue for Half-wool B, Brown for Half-wool R and Black for Half-wool B G N; Farbenfabriken & Co., New York.

Three samples of half-wool goods dyed with Navy Blue B, Brown R and Black B G N. These colors can be shaded to any desired tone with Benzidines or neutral dyeing wool dyestuffs. Working directions are given.

Azo Merino Black; Cassella Color Co., New York.

A folder containing 12 samples of woolen cloth and yarn showing shades obtained by the use of Azo Merino Black 6 B N, 3 B N, B N. The new products are of importance principally for the dyeing of ladies' dress goods, plain as well as with effect threads. Full working directions are given.

DYE RECIPES.

The following recipes appear in the Dyers' Supplement, which is issued each month by the TEXTILE WORLD RECORD. The Supplement contains the colored samples, dyed according to recipes given. The selection of samples is carefully made, and it is the aim to show shades which are of especial interest to the dyer, and which the requirements of the market demand. The Dyers' Supplement is a 16-page pamphlet, in convenient form for preservation. Subscription price for the Dyers' Supplement $1.00 per year.

Recipe No. 129.

Scarlet on Worsted Yarn.

X L Eosine 5 B on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. X L Eosine 5 B.
(Read Holliday & Sons, 7 Platt St., N. Y.)
4 lbs. Sulphuric Acid.
15 lbs. Glauber's Salt.

Enter at 120° F., bring slowly to a boil and dye at a boil for one hour.

X L Eosine 5 B dyes exceptionally level and gives dyeings of excellent brilliancy.

Recipe No. 130.

Blue Black on Worsted Yarn.

Naphthol Blue Black B N on 100 lbs. worsted yarn. Prepare the dye bath with

4 lbs. Naphthol Blue Black B N.
(Cassella Color Co., 182 Front St., N. Y.)
4 lbs. Sulphuric Acid.
20 lbs. Glauber's Salt.

Enter yarn at 120° F., bring slowly to a boil and boil for 1 to 1 1/4 hours, and then, if necessary, add some bisulphate of soda or sulphuric acid to exhaust the dye bath.

Naphthol Blue Black B N will be found an excellent color for the dyeing of heavy material and other material which is difficult to penetrate.

Recipe No. 131.

Pink on Bleached Cotton Yarn.

Tetrazo Pink 3 B Conc. on 100 lbs. bleached cotton yarn. Prepare the dye bath with

½ lb. Tetrazo Pink 3 B Conc.
(American Dyewood Co., 154 William St., N. Y.)
20 lbs. Common Salt.
½ lb. Soda Ash.

Dye at a boil for one hour.

Tetrazo Pink 3 B Conc. gives a bluish pink of ordinary fastness and good covering power. Dyes cotton and wool about the same shade.

Recipe No. 132.

Blue on Worsted Yarn.

Alizarine Blue C P N on 100 lbs. worsted yarn. First mordant the yarn in a bath of

3 lbs. Potassium Bichromate,
2 lbs. Tartar,

entering at 140° F., bringing slowly to a boil and boil for at least one hour.

Then dye in a bath made up with

4 lbs. Alizarine Blue C P N.
(C. Bischoff & Co., 451 Washington St., N. Y.)
1 lb. Acetic Acid.

Enter the yarn at ordinary temperature and bring slowly to a boil and dye at a boil for one hour, then add

Acetic Acid

in sufficient quantity to exhaust the dye bath and continue the boiling for 1/2 hour longer.

Alizarine Blue C P N stands sunlight and fulling excellently.

Recipe No. 133.

Brown on Cotton Yarn.

Diamine Bronze Brown P E on 100 lbs. cotton yarn. Prepare the dye bath with

4 lbs. Diamine Bronze Brown P E.
(Cassella Color Co., 182 Front St., N. Y.)
25 lbs. Common Salt.
1 lb. Soda Ash.

Enter at 180° F. and dye at a boil for one hour.

Diamine Bronze Brown P E possesses the characteristic properties of the direct cotton colors.

Recipe No. 134.

Blue on Worsted Yarn.

Metamido Blue B on 100 lbs. worsted yarn. Prepare the dye bath with

4 ounces Metamido Blue B.
(E. M. Thayer & Co., 411 Atlantic Ave., Boston.)
8 ounces Sulphuric Acid.

Enter the yarn at ordinary temperature, raise slowly to a boil and dye at a boil until the bath is exhausted.

Metamido Blue B possesses good fastness to light, acids and washing, and besides being a valuable self-color will find extensive use for shading alizarine colors, as well as other acid colors.

Recipe No. 135.

Blue on Worsted Yarn.

Alizarine Cyanine Blue D on 100 lbs. worsted yarn. First mordant the yarn in a bath of

3 lbs. Potassium Bichromate.
2 lbs. Tartar.

Enter at 140° F. and boil for at least one hour. Then dye in a bath made up with

3 lbs. Alizarine Cyanine Blue D.
(A. Klipstein & Co., 122 Pearl St., N. Y.)
1 lb. Acetic Acid.

Enter the yarn at 140° F., bring slowly to a boil and dye at a boil for one hour, then add

Acetic Acid

in sufficient quantity to exhaust the dye bath and boil for 1/2 hour longer.

Alizarine Cyanine Blue D possesses good fastness to light and washing.

Recipe No. 136.

Yellow on Worsted Yarn.

Domingo Alizarine Yellow 3 R Extra on 100 lbs. worsted yarn. Prepare the dye bath with

2 lbs. Domingo Alizarine Yellow 3 R Extra.
(C. Bischoff & Co., 451 Washington St., N. Y.)
10 lbs. Glauber's Salt.
5 lbs. Acetic Acid.

Enter at 120° F., bring slowly to a boil and dye at a boil for one hour, then add

1-2 lbs. Sulphuric Acid

to exhaust the dye bath.

Then after-treat by adding

2½ lbs. Potassium Bichromate

and boiling for 1/2 hour longer.

Domingo Alizarine Yellow 3 R Extra possesses very good fastness to light and washing.

Recipe No. 137.

Lilac on Cotton Yarn.

Tetrazo Chlorine Lilac B on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Tetrazo Chlorine Lilac B.
(American Dyewood Co., 154 William St. N. Y.)
25 lbs. Common Salt.
½ lb. Soda Ash.

Dye at a boil for 1/2 hour.

Tetrazo Chlorine Lilac B is of good fastness to washing and acids and dyes cotton and wool about the same shade.

Recipe No. 138.

Violet on Worsted Yarn.

Ethyl Acid Violet S 4 B on 100 lbs. worsted yarn. Prepare the dye bath with

2½ lbs. Ethyl Acid Violet S 4 B.
(Badische Company, 128 Duane St., N. Y.)
3 lbs. Sulphuric Acid.
15 lbs. Glauber's Salt.

Enter at 120° F., bring to a boil and dye at a boil for one hour.

Ethyl Acid Violet S 4 B will be found to be a valuable color for shading purposes where a bright violet of comparatively low cost is desired.

Recipe No. 139.

Pink on Bleached Cotton Yarn.

Diazo Geranine B Extra on 100 lbs. bleached cotton yarn. Prepare the dye bath with

4½ ozs. Diazo Geranine B Extra.
(Farbenfabriken Co., 66 Lafayette St., N. Y.)
10 lbs. Glauber's Salt.
½ lb. Soda Ash.

Enter at 140° F., bring slowly to a boil and boil for 1/2 to 3/4 of an hour, or as long as is necessary to insure evenness.

Rinse and diazotize in a cold bath made up with

1½ lbs. Sodium Nitrite,
5 lbs. Hydrochloric Acid, 32° Tw.,

for 1/4 to 1/2 hour.

Then develop in a bath made up with

4 ozs. Beta Naphthol,
4 ozs. Caustic Soda Lye, 76° Tw.,

and work for 1/4 to 1/2 hour.

Diazo Geranine B Extra possesses remarkable coloring power, only 1/20 of 1 per cent. of color having been used in the above dyeing. It is well adapted for the dyeing of all forms of cotton material and possesses excellent fastness to washing.

Recipe No. 140.

Blue on Bleached Cotton Yarn.

Zambesi Pure Blue 4 B on 100 lbs. bleached cotton yarn. Prepare the dye bath with

1 lb. Zambesi Pure Blue 4 B.
(Berlin Aniline Works, 213 Water St., N. Y.)
30 lbs. Glauber's Salt.

Enter at 180° F. and dye at a boil for one hour. Then rinse, and diazotize, by working for 15 to 20 minutes in a cold bath made up with

3 lbs. Sodium Nitrite,
12 lbs. Hydrochloric Acid, 32° Tw.

Then develop in a cold bath made up with

1 lb. Beta Naphthol,
1 lb. Caustic Soda Lye, 76° Tw.

Zambesi Pure Blue 4 B produces dyeings which are very fast to washing and light.

Recipe No. 141.

Blue on Cotton Yarn.

Compound Shade on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Zambesi Pure Blue 4 B.
1 lb. Naphtogene Blue 2 R.
(Berlin Aniline Works, 213 Water St., N. Y.)
30 lbs. Glauber's Salt.

Enter at 180° F. and dye at a boil for one hour. Then rinse, and diazotize by working for 15 to 20 minutes in a cold bath made up with

3 lbs. Sodium Nitrite,
12 lbs. Hydrochloric Acid, 32° Tw.

Then develop in a cold bath made up with

1 lb. Beta Naphthol,
1 lb. Caustic Soda Lye, 76° Tw.

The above combination produces dyeings which are very fast to washing and light.

Recipe No. 142.

Brown on Worsted Yarn.

Alizarine Chrome Brown A on 100 lbs. worsted yarn. First mordant the yarn with

3 lbs. Potassium Bichromate,
2 lbs. Tartar.

Enter at 140° F. and boil for at least one hour. Then dye in a bath made up with

3 lbs. Alizarine Chrome Brown A.
(A. Klipstein & Co., 122 Pearl St., N. Y.)
1 lb. Acetic Acid.

Enter the yarn at 140° F., bring slowly to a boil and dye at a boil for one hour, then add

Acetic Acid

in sufficient quantity to exhaust the dye bath and boil for 1/2 hour longer.

Alizarine Chrome Brown A possesses good fastness to light and washing.

Recipe No. 143.

Blue on Cotton Yarn.

Diamineral Blue C V B on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Diamineral Blue C V B.
(Cassella Color Co., 182 Front St., N. Y.)
25 lbs. Common Salt.

Boil for 1 hour and then after-treat at a boil for 1/2 hour in a bath containing

2 lbs. Potassium Bichromate,
2 lbs. Copper Sulphate,
2 lbs. Acetic Acid.

Diamineral Blue C V B when dyed and after-treated in this way gives an excellent shade of blue which possesses very good fastness for a direct cotton color.

Recipe No. 144.

Scarlet on Worsted Yarn.

X L Scarlet on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. X L Scarlet.
(Read Holliday & Sons, 7 Platt St., N. Y.)
4 lbs. Sulphuric Acid.
15 lbs. Glauber's Salt.

Enter at 120° F., bring slowly to a boil and dye at a boil for one hour.

X L Scarlet dyes exceptionally level and gives dyeings of excellent brilliancy.

Mill News.

Those interested in receiving early and more complete investigated information of projected new mills, enlargements, improvements, fires facts and gossip of the trade are referred to the Textile Advance News, issued weekly by the publishers of the Textile World Record, at $15.00 per year.

COTTON.

New Mills.

*Alabama, Gaylesville. In about 30 days the new Gaylesville Cotton Mills will begin the construction of their plant. This company was formed in April and has capital stock of $100,000. The initial equipment of machinery will be 3,500 spindles. It is understood that machinery contracts have not yet been given out. J. Robert Henderson is pres., A. B. Russell is vice pres. and treas.

*Georgia, Blakeley. Efforts to organize a cotton mill for this place have been renewed. J. W. Greer and John Underwood are at the head of the project and report they are confident that organization will be completed and construction work begun on the mill shortly.

Georgia, West Point. The West Point Mfg. Co.'s new mill and 3,000 horse power electric plant at Langdale on the Chattahoochee River near West Point, have been completed. The mill proper is 840 ft. long and 130 ft. wide; picker house is two stories high, 80 by 200 ft.; power house, 50 by 80 ft.; transformer station, 20 by 20 ft.; and cotton warehouse, 100 by 500 ft. The mill will be equipped with 35,000 spindles and 1,000 looms for manufacturing cotton duck and similar cloths. The total outlay for new mill, power plant, operatives' cottages, etc., will be about $800,000.

Massachusetts, New Bedford. Another new fine goods mill is being planned for the South end of this city. It is reported that a 50,000 spindle plant is contemplated. As yet it has not been definitely decided when the stock will be placed on the market or construction work begun. Walther H. Langshaw, president and agent of the Dartmouth Mfg. Co., is interested in this new enterprise.

*Massachusetts, Wilkinsonville. Construction work on the new weave shed of the cotton mill to be operated under the direction of Sam Hird is progressing. A new electric power house is to be built, as reported previously. It is understood that the John H. Meyer Co. of New York is interested in the starting of this plant.

*North Carolina, Charlotte. The Savona Mfg. Co., reported incorporated in July at Jersey City with capital stock of $100,000, will, it is understood, equip a plant in this city, leasing space in the D. A. Tompkins Company's building for manufacturing fancy cotton goods. Alexander & Garsed, dealers in machinery, and W. A. Shullenberger are the directors.

North Carolina, Lincolnton. New buildings for the Eureka Mfg. Co. have been completed and 1,020 mule spindles with preparatory machinery are being installed. As previously reported, 2s to 10s single yarns will be manufactured. No date has been decided upon for starting manufacturing.

North Carolina, Vass. A. Cameron has awarded to T. B. Creel, of Aberdeen, N. C., contract for the erection of a cotton mill, 78 by 228 ft. 5,000 spindles will be installed for the manufacture of cotton yarns.

*North Carolina, Zebulon. The new mill projected for this place will not be built until early in 1909. Our earlier report to the effect that the company will be organized with capital stock of $100,000, and that the product will be hosiery yarns, is correct. At the present time plans are not in definite shape. Archibald Meldrum is at the head of the project.

*South Carolina, Rock Hill. New buildings for the Wymojo Yarn Mills have been completed, and the company expects to award contracts for machinery and supplies within a few days. The main building is 127 by 310 feet, one story high. Forty-two tenement cottages for operatives are under construction. The mill's capacity is 10,000 spinning spindles, 5,000 twister spindles and accompanying machinery, which will be driven by individual electric motors. 20s to 30s two ply yarns and a waste product of 8s three ply yarn will be manufactured. There will also be a modern repair shop equipped for repair work. Electricity for power will be transmited from a Rock Hill transformer station of the Southern Power Co., of Charlotte, N. C. The capital stock of the Wymojo Yarn Mills is $150,000. W. W. Moore is pres. and treas. and S. G. Wiley is sec.

Enlargements and Improvements.

*Connecticut, Danielson. Work has begun on the new dam to be erected by the Danielson Cotton Co. at Pomfret Landing. This dam, with power house fully equipped, is to be finished and furnishing electric power by January 1, 1909, for the new mill on Maple St., details of which have been given.

*Connecticut, Moosup. About the end of this month the new addition to the weave room of the Aldrich Mfg. Co. will be ready to receive the new looms which will be installed. Construction work is being pushed forward very rapidly.

*Georgia, Hampton. It is reported that construction work is started on the new addition to the Hampton Cotton Mills. Details of this improvement have been given. The capital stock was increased from $100,000 to $150,000 to finance the enlargement.

Georgia, Lindale. Reports state that a large addition to the Massachusetts Mills in Georgia is

under contemplation and will probably be erected this fall.

Massachusetts, Fall River. The Tecumseh Mills have added 4 new Whitin spinning frames and one new banding machine.

*Massachusetts, Fall River. It is now stated that the proposed addition to the Seaconnet Mills, voted by the directors a few days ago, will not be erected unless assurance can be given that the cost will not exceed $100,000. At present a large number of spindles are idle because the carding department cannot keep up with the spinning department. The proposed addition would make a better balance of machinery if built.

Massachusetts, Fall River. A large order for spinning frames has been placed with the Howard & Bullough American Machine Co., Ltd., Pawtucket, R. I., by the Sagamore Mfg. Co.

*Massachusetts, Fall River. Workmen are engaged in laying the foundation for the addition to the Davis Mills. Full particulars of this addition were given in June. The increase in the capital stock voted at the special meeting of the stockholders in June has practically all been subscribed.

Massachusetts, Fall River. Eighteen new Whitin spinning frames have been added to the equipment of the American Linen Company.

*Massachusetts, Fall River. Improvements to the buildings of the Troy Cotton & Woolen Mfg Co., recently reported, are simply to give more room for the present machinery equipment. No new machinery will be required.

*Massachusetts, Fall River. Construction work on the addition to the Richard Borden Mfg. Co.'s plant will be started at once. The new building will provide space for about 7,700 new spindles, which will be added as soon as the building is ready to receive them.

Massachusetts, Indian Orchard. The Indian Orchard Co. is adding new machinery to take the place of some of the old equipment which is being thrown out.

Massachusetts, Lawrence. The new power plant of the Pacific Mills is now practically completed and one part has been in operation for about two weeks. Particulars of this plant have been given.

*Massachusetts, New Bedford. The new concrete addition to the Dartmouth Mfg. Corp. will be used for enlarging the carding department. Construction work will begin as early as possible, perhaps in a few days. The new building will be 137 by 63 ft. and 16 ft. high. Walter H. Langshaw is agent and buyer.

Massachusetts, New Bedford. Part of the machinery of the new Manomet Mills No. 2 has been started up and it is believed that within a few weeks, the mill will be operated to the extent of its capacity.

*Massachusetts, Northbridge. The improvement at the Rockdale Mill, Paul Whitin Mfg. Co., is merely the building of a new storehouse to take the place of an old building which is to be torn down. No enlargement of the plant is contemplated.

Massachusetts, Thorndike. An addition to the picker building at the No. 2 mill of the Thorndike Co. is to be erected. It will be 120 by 35 feet, and 3 stories high. There will also be an addition of one story to the present building.

New Hampshire, Salmon Falls. A number of new looms are being set up in the weaving department of the Salmon Falls Mfg. Co.

*New York, Cohoes. Construction work has just been completed on the Fuld & Hatch Knitting Company's new spinning plant and the work of installing machinery will be started immediately. The mill will be in operation by November. Details of this mill have been given.

*North Carolina, Cooleemee. A warp tying machine has been added to the equipment of the Erwin Cotton Mills Co. The improvements recently noted have not been completed but good progress is being made.

North Carolina, Cornelius. An addition is being built to the plant of the Gem Yarn Mills in order to make space for additional machinery. A brick warehouse also will be erected. This company has capital stock of $40,000 and spins 8s to 16s skein yarns. J. B. Cornelius is president and F. C. Sherrill is treasurer and buyer.

North Carolina, Salisbury. The Kesler Mfg. Co. has awarded contract for machinery to operate its plant by electricity. About 250 horse-power will be furnished. Twenty-five thousand ring spindles and 306 broad looms are operated on sheetings.

*North Carolina, Shelby. Instead of an increase of only 2,500 spindles given in early reports, plans for enlarging the Shelby Cotton Mills embrace the installation of 6,500 new spinning spindles and 2,500 twisting spindles. Plans for the additional building are now in preparation and construction work will begin shortly. C. C. Blanton is president, J. C. Smith, treasurer and buyer, and T. L. Saunders' is superintendent. Electric power equipment will be needed for the new mill. At present 8,500 ring spindles, 1,512 twisting spindles and 250 looms are operated on sheetings and 2/24's skein yarns.

*Rhode Island, Riverpoint. Repairs to the power department of the Royal Mills, B. B. & R. Knight, necessitated by the breaking down of the old engine, will be completed in about two weeks and the entire plant will resume operations in full.

Rhode Island, Woonsocket. A new office building, 18 by 24 feet, and 2 stories high, has recently been completed for the Eagle Mills.

*South Carolina, Clinton. The Clinton Cotton Mills have completed their new building and installed a new 2,000 h. p. steam engine. The structure is 5 stories high, 350 ft. long, and 125 ft wide. It is being equipped to make lawns and will start manufacturing about October 1. No other enlargements are contemplated at the present time.

*South Carolina, Fairmont. None of the details of the improvements to the Tyger Cotton Mills have been given out. It is probable that the name

will be changed to the Fairmont Cotton Mills, as this matter is under consideration.

South Carolina, Gaffney. Machinery is being moved from the old mill of the Gaffney Mfg. Co. to the old finishing mill building in order to re-arrange the equipment to a better advantage. As previously reported, this company expects to add about 12,000 spindles when the demand for their products justifies the enlargement.

*South Carolina, Rock Hill. The subject of enlarging the Hamilton-Carhartt Cotton Mill is still under discussion by the officials of the corporation, and nothing definite can be stated regarding the project. 8,000 ring spindles and 200 looms are operated on cottonades, denims and shirtings, and it was reported that this equipment would be

*Virginia, Petersburg. The two new turbine water wheels for the Virginia Consolidated Milling Co. have been installed.

WOOLEN.

New Mills.

*Kentucky, Louisville. It is reported that Thomas Williams, previously reported interested in the new worsted spinning mill project, has completed the organization of the company and plans to establish a plant of about 3,500 spindles. Mr. Williams was formerly employed by the Hope Worsted Mills.

*Massachusetts, Monson. The J. W. Bishop Co. of Worcester has the contract for the erection of A. D. Ellis' new mill. Details have been given previously. Other plants of Mr. Ellis' at this place have returned to a full time schedule.

*Michigan, Pickford. Further plans for the new woolen mill are to have plant equipped ready for manufacturing early in 1909. Lumberman's goods, tweeds and flannels will be manufactured.

*Oregon, Pendleton. Plans have been prepared for the woolen mill to be erected by the Gordon Falls Electric & Mfg. Co. at the new town of Gordon Falls. The main building will be 200 by 60 feet, with a wing 100 feet long. It has not been decided as yet whether the structure will be of cement or of stone. It is proposed to install six sets of cards with looms and preparatory machinery. The officers have been given in previous reports.

Pennsylvania, Philadelphia. George W. Lefferts & Co. have recently leased the second floor in the Godshalk Mills, 23rd and Hamilton Streets, which they are equipping with machinery for the spinning of worsted yarns, for weaving and knitting, up to 32s, 2, 3 and 4-ply, on the Bradford system. The plant will contain 1152 spindles and will be run under the superintendency of Walter Marshall, formerly with the Tracy Worsted Mills. The company is composed of George W. Lefferts, formerly of the Tracy Worsted Mills of this city, now in process of liquidation; Walter Marshall, and Warren T. Rawson. In addition to selling their own product the plant will be run on commission spinning.

*Rhode Island, Providence. The Elston Worsted Company has been incorporated with capital stock of $50,000. Arthur Elston (Providence), Ernest Elston (Wallingford), and Chas. W. Floyd (New York City), are the incorporators. This company purchased the Rhode Island Worsted Company's plant.

*Wisconsin, Milwaukee. The Western Worsted Mills, previously reported incorporated with capital stock of $25,000, are operating the plant of 16 looms formerly known as the Kassmann Worsted Company. The latter concern was declared bankrupt some months ago. Staple men's wear worsteds are manufactured. F. M. Weinhold is president and buyer, W. G. Hays, treasurer, and John Viehs is superintendent. A dyeing and finishing plant is operated in connection with the weaving department; 2/20's to 2/60's worsted yarns are used, all yarns being bought. John G. Naghton, Medinah Temple, Chicago, is selling agent. They are interested in cloth boards and measuring and folding machinery.

Enlargements and Improvements.

*Arkansas, Nashville. J. A. McMahon, recently reported to have purchased the Arkansas Woolen Mill, Inc., and further reported as proposing to start a plant at Malvern, this state, advises that he is in communication with the Boards of Trade of several places on the subject of removing the Arkansas Woolen Mill plant to a more suitable location. It is probable that the plant will not be moved to Malvern, as better inducements have been offered by the Board of Trade of Conway. The mill is not in operation at present.

*Connecticut, Stafford Springs. On the completion of the installation of the new water wheel, the Warren Woolen Co. will resume manufacturing. No other improvements are contemplated at this time. Fancy woolens and worsteds are manufactured on seven sets of cards and 75 looms. The capital stock is $60,000. J. H. Valentine is president, Hannibal Alden is treasurer, and A. I. Mitchell is agent and buyer. The product is sold direct.

Connecticut, Torrington. The power station for the new mill of the Warrenton Woolen Co., which is being erected and equipped in accordance with plans and specifications of Chas. T. Main, engineer, Boston, is isolated from the main body of the mill which is to be operated with electric power. The building is 73 by 52 ft., with chimney 125 ft. high; the boiler house is about 40 by 50 ft. and the engine house about 30 by 40 ft. The building is of brick with steel trusses and reinforced concrete roof. An industrial railway runs from the coal pocket to the boiler house.

Kentucky, Louisville. Twenty-four Crompton & Knowles looms have been added to the cassimere weaving room of the Falls City Woolen Mills.

*Maine, Foxcroft. Construction work has been started on the new concrete mill to be erected for Mayo & Sons. Complete plans have been given.

Maine, Kezar Falls. A new dam is being built by the Kezar Falls Woolen Co.

Maine, Lewiston. The Cowan Woolen Co. is erecting a new brick storehouse, 60 feet square and two stories in height. This company is running full time and reports a brisk business.

*Massachusetts, Agawam. A new boiler has just been installed by the Agawam Co., taking the place of two small boilers which have been taken out. While this change is being made the plant is shut down but will resume in full as soon as possible.

Massachusetts, Huntington. The Huntington Mfg. Co. is installing five Altemus winders in the spooling room, and making a number of other improvements during the temporary suspension of manufacturing. Worsted suitings are manufactured on 30 looms, all yarns being bought.

*Massachusetts, Lawrence. In connection with the reported addition to the worsted department of the Pacific Mills the company states that they are making an addition to the main building of their worsted mill. The addition is being built of brick and is four stories high, 200 by 142 ft. The work is being done under direction of the mill officials.

Massachusetts, Lowell. It is reported that 20 new looms will be added to the equipment of the Merrimack Mfg. Co. A few weeks ago this company increased its capital stock to $250,000. Edwin G. Morrison is agent and buyer. Sixteen sets and 92 broad looms are operated on dress goods, suitings and cloakings.

Massachusetts, Oxford. It is reported that plans for an extensive addition to the plant of A. Howarth & Son at this place are being prepared. A new mangle is being installed at present.

Massachusetts, Worcester. It is reported that contract has been awarded to E. J. Cross of this place for an addition to the spinning mill of M. J. Whittall, carpet manufacturer. The addition will be one story in height, 20 by 140 ft., of brick construction. Construction will be started at once. Some time ago it was reported that a new coal pocket would be built for this company, but work on this has not yet been started.

*New York, Jamestown. Following the taking over of the control of the Greenwood Worsted Mills by John W. Doubleday and Luther N. Butman, president and treasurer, respectively, of the Empire Worsted Mills, the former company has been reorganized and will be known in the future as the Acme Worsted Mills. A new water plant is to be installed now and additional machinery will be installed later as needed. Capital stock is $150,000. Geo. B. Pitts has been elected president, C. N. Barger, treasurer and Irving Broadhead, superintendent. Buying will be done by Mr. Butman of the Empire Worsted Mills Dress goods and men's light weight suitings are the product. The equipment is 1 comb, 1 worsted card, 1,000 spindles and 50 looms.

New York, Little Falls. Only a part of the land and buildings of the Adirondack Woolen Co. will be appropriated by the State for barge canal purposes. The part taken will be replaced at once. The Adirondack Woolen Co. manufactures wool shoddies on 6 sets, dyeing some of the product. Geo. L. Smith is treasurer and buyer.

Pennsylvania, Philadelphia. The Devonshire Woolen Mills, whose plant was damaged by fire, when the building in which they were located at Oxford and Josephine Sts., Frankford, was destroyed, have removed their establishment to the building at the corner of Kensington Ave. and Venango St., where they are now operating 26 broad looms on dress goods and men's wear. S. W. Goldsmith is the proprietor and the offices of the mills are at 925 Chestnut St.

Pennsylvania, Philadelphia. A. J. Gordon & Co. have removed their Delwood Mills from the building at the S. E. corner of Mascher and Somerset Sts., to the mill formerly occupied by Royle & Pilkinton, in the Bromley Mills at Leiper and Adams Sts., Frankford. They are manufacturers of upholstery goods, etc., and dress goods. The number of looms at the old address was 24, which it is said has been increased. They sell direct.

*Rhode Island, Bristol. Improvements to the plant of the Namquit Worsted Co., formerly the Namquit Worsted Mills, by the new company which recently took over the plant, are not completed. A new dye house is being erected. Part of the plant is in operation. J. Harvey Merrill is in charge and associated with him are M. T. Rubenstein and J. L. Rubenstein of L. Rubenstein & Co., 349 Broadway, New York.

*Virginia, Bedford City. An addition, 55 by 75 feet, will be built to the plant of the Bedford Mills Company to provide space for new machinery equipment which will be added. Three sets and 26 looms are operated on woolen goods. A large government contract was recently awarded to this company.

Mills Starting Up.

Maine, Dexter. No. 2 Mill of the Morrison Woolen Co., which has been shut down for several months, is being started up and carding and spinning rooms are already in operation.

Maine, Sabattus. After a shut down lasting since early in the year, the lower mill of the Webster Woolen Co. has resumed manufacturing. 5 sets of cards are in operation.

*Maine, Wilton. The lower mill of the Wilton Woolen Co, has in part resumed manufacturing. Improvements have been made to the water power equipment.

Massachusetts, Franklin. Part of the Ray Mills, American Woolen Co., started up Monday morning. Machinery is being started as fast as stock can be put through and it is probable the mill will be running to its full capacity within a few weeks.

Mills Shutting Down.

Philadelphia, Philadelphia. The Lawson Woolen Mills (not incorporated) which were started up at Adams Ave. and Church St., Frankford, several months ago, have been shut down, the report being that its owner will dispose of it. Ten looms have already been sold to other parties. William

Grindrod who was connected with this company as superintendent, is now with the Rhodesia Mfg. Co., where he occupies the same position, at Hancock and Somerset Sts.

SILK.

New Mills.

*New Jersey, Paterson. The Colonial Ribbon Co., reported incorporated in July with capital stock of $60,000, will operate 70 looms on ribbons. They expect to begin manufacturing about September 1. A. V. Seymour is president; Charles Slingland is treasurer, agent and buyer; and W. E. Fischer is vice-president and superintendent. The plant will be operated by steam power and product will be sold through Passavant & Co., New York.

*New Jersey Paterson. The partnership formed by Morris Goldman and Abraham Schottland will be known as Goldman & Schottman. Ten looms have been installed at Taylor St. and R. R. Ave. for manufacturing taffetas.

*New Jersey, Paterson. Rapid progress is being made on the new mill being erected by the P. S. Van Kirk Co. for Franz C. Reinhardt. The Van Kirk Co. is also building a mill on Goodwin St. near Graham Ave., for rental. This building will be 50 by 200 ft., 3 stories high.

New Jersey, Paterson. The P. S. Van Kirk Co., building contractors, are erecting a mill on Godwin St. and will lease it to Mr. D. Edmund David, who will install machinery for the manufacture of silk goods. Mr. David was formerly a member of the firm of Reiling, David & Schoen, operating plants in Valley Falls, R. I., West Hoboken and West New York, N. J. and Scranton, Pa.

*Pennsylvania, Emaus. The new silk mill to be built on Ridge St. will be owned by J. H. Frederick, manager of the Central Silk Mfg. Co., Ltd., of Siegfried, Pa. It is expected that the building will be completed November 1. Thirty broad looms will be installed for the manufacture of broad silks.

Rhode Island, Hamilton. From 10 to 20 looms are being set up in a building here owned by the Hamilton Web Co. The new plant will be known as the Dragon Silk Mills, and is owned by the American Picker & Strapping Co. of 143 Summer St., Providence, R. I. Robert M. Baeny and Arthur D. Champlin are president and treasurer respectively of the American Picker & Strapping Co., and will do the purchasing for the Dragon Silk Mills. Geo. I. Dragon will superintend the plant. Dress silks, lining silks and satins will be manufactured.

Enlargements and Improvements.

Canada, Toronto. The new building for the Canadian Silk Co., Ltd., to replace the one destroyed by fire on May 2, is now in course of erection and will be completed about Sept. 15. It was previously reported that they had purchased a site on Morrow Ave. and would rush construction work on the new building. This company manufactures woven labels, non-elastic webbing, and electrical tape, and has absorbed the Canada Webbing Co., Ltd., a new concern which started a few months ago. Owing to the absorption of the Webbing Company the name of the Canadian Silk Co., Ltd., is likely to be changed and the capital stock increased. W. R. Walton is pres. and D. L. Smith is sec. and treas. Both the above parties buy for the concern.

*Massachusetts, Holyoke. Construction work will start during this month on the new four-story addition to the William Skinner Mfg. Co.'s plant. The dimensions will be 60 by 304 ft. instead of the dimensions previously reported. A new heating plant also will be built instead of a power plant given in earlier reports. The new equipment to be installed will comprise 15,000 spindles and 400 looms, giving employment to from 500 to 600 additional hands. The Wm. Skinner Mfg. Co. has capital stock of $100,000. Wm. Skinner is president; Joseph A. Skinner is treasurer and buyer; and Frederick A. McLane is superintendent. The product is sold direct.

New Jersey, Paterson. Additional floor space in the Sipp Mill has been leased by the Passaic Silk Co. and 28 broad silk looms will shortly be added to their equipment.

*New Jersey, West New York. Rogers & Thompson are operating a plant of 250 looms at 22nd St., on broad silks. An addition, two stories high, 35 by 102 ft., is in process of construction. M. D. Rogers is president, L. O. Thompson, treasurer, and G. Mottin, is superintendent.

MISCELLANEOUS.

*Alabama, Oxford. The capital stock of the Planters Mfg. Co. has been increased from $100,000 to $165,000. A new addition 160 feet long and 3 stories high, will be added to the plant and some of the machinery equipment of the Rhode Island Cordage Co., of Shannock, R. I., which was recently dismantled, will be set up. Sash cord, cotton rope, etc., is the product.

Connecticut, Middletown. The Russell Mfg. Co. is adding considerable machinery and has placed orders for picking, cards and drawing frames with Howard & Bullough American Machine Co., Ltd., Pawtucket, R. I.

*Connecticut, Mystic. The Ninigret Mills Company announce that its new plant will be ready for occupancy by Oct. 1.

*Connecticut, New Britain. Nathan E. Mag's new braiding plant, which consists of machinery formerly operated by the Silver City Braid Co. of Meriden, is being run overtime. Mr. Mag is operating in this city under the name of the Silver City Braid Co. A small fire which occurred several days ago did not incapacitate any of the equipment.

*Maine, Alfred. Ground has been broken for the new building to be erected for the Alfred Embroidery Co. It is stated that contractor expects to have the building ready for occupancy Oct. 1.

*Massachusetts, Amherst. On Monday, Aug. 17, the Brown Mercerizing Co. expects to start operations in its new locaton. As previously reported this corporation succeeds to the business of the J. E. Brown Cotton Works, of Holyoke. Crochet yarns and darning cotton will be manufactured and job mercerizing done. The new plant is operated by steam power. New cone winders and spoolers will be installed and the officers are interested in receiving information on this machinery. E. D. Marsh is president, Mason A. Dickinson treasurer, C. E. Watson agent and buyer and Albert Misch is superintendent.

Massachusetts, Attleboro. Construction work is being pushed rapidly on the new boiler room of the Standard Braid Co. Charles F. Davol is treasurer and John Clitheroe is superintendent. Shoe laces are the product.

*Massachusetts, Fall River. The ten new boilers being added to the plant of the American Printing Co. will make a total of 51 boilers installed.

Massachusetts, Lowell. On Monday morning, August 3, the John C. Meyer Co. started manufacturing in the Pickering Knitting Co.'s building, the removal from Jamaica Plain, Boston, being practically completed. Within a few weeks it is expected that the entire equipment will be in operation.

*Massachusetts, Fitchburg. It has been announced that the Houghton Web Co. will run its plant twenty hours a day, keeping two shifts of help busy. For some time the regular employes have been working overtime. As previously reported, a new weave shed will be built, capital stock having been increased to finance this enlargement.

Massachusetts, Hudson. Contract for six additional cards has been awarded by the Hudson Fibre Company. The concern is very busy and reports a market for all the product that can be turned out. Absorbent cotton batting is manufactured. John H. Coughlin of Sterling and Thomas J. McNamara of Clinton have taken over the interest of M. T. Dwyer and a new company will be organized. James C. Boland is in charge of the plant.

*Massachusetts, Milford. The last shipment of the new looms for the Wm. Lapworth & Sons Co. has been made and in a few days the entire new equipment of 18 looms will be in operation.

*Massachusetts, Millbury. A new company will be formed to operate the plant of the United States Linen Company. Application will be made for a charter with capital stock of $50,000, next week, by John E. Eaton, of Eaton & McKnight, attorneys, 45 Milk St., Boston. The name of the company will be the United States Milling Co. A large quantity of stock has been purchased and it is expected that manufacturing will be started before the 10th of September.

*Massachusetts, Wales. It is understood that the Textile Specialties Co., a new corporation, which it was reported would take over and operate the old Berkeley Woolen Mill, has not yet completed details of organization. Early reports to the effect that a quantity of cotton machinery would be added, are correct. John B. Perkins, 141 Milk St., Boston, and H. E. Shaw, proprietor of the Berkeley Woolen Mills, are interested in the new corporation.

New Jersey, Passaic. The Passaic Print Works, which have been making changes and additions to their power department by an installation of eight new boilers, have also put in a filter plant supplied by Hungerford & Terry, filtration engineers, located in the Pennsylvania Building, Philadelphia, with an aggregate capacity of 4,000 h. p. for the purpose of supplying their boilers with pure water.

New Jersey, Paterson. Kearns Brothers, who are making additions and improvements to their skein silk dyeing plant at Shady and Wood Sts., and whose works are already equipped with a filtering plant supplied by Hungerford & Terry, Pennsylvania Building, Philadelphia, has just placed an order with this concern for another filter with a capacity of one million gallons, the construction of which will be commenced at once.

New Jersey, Paterson. Robert Gaede is having erected a large addition to his dyeing establishment, of brick, 80 by 140 feet. He has also had installed by Hungerford & Terry, filtration engineers, 1408 Pennsylvania Building, 15th and Chestnut Sts., Philadelphia, one of their latest improved dyehouse filters, with a capacity of 120,000 gallons, which is now in operation and giving entire satisfaction.

New York, Newburgh. An addition, of reinforced concrete construction, is being built to the plant of the Newburgh Bleachery. Upon its completion, mercerizing machinery will be installed. All contracts for construction work and machinery have been placed. Joseph Chadwick is president and Thos. F. Chadwick is treasurer. They bleach and finish fine cotton piece goods, selling through Joseph Chadwick & Sons, 346 Broadway, New York.

North Carolina, Concord. Damage caused by the recent fire in the plant of the Kerr Bleaching & Finishing Works will be repaired at once and a quantity of new machinery will be installed. J. M. Odell is president and W. R. Odell is treasurer.

North Carolina, Mountain Island. After an idleness lasting since July 3, the W. & J. Knox Net & Twine Co. has resumed manufacturing. During the suspension of manufacturng a number of improvements were made to the plant. 16s and 14s yarn and rope are manufactured.

Pennsylvania, Philadelphia. Samuel H. Downs, winder and spooler of silk on commission in the Bromley Mills, Jasper and York Streets, it is reported, has shut down the plant and will not start it up again

Pennsylvania, Philadelphia. The new three-story brick mill recently erected for F. W. Maurer & Sons Co., at Wayne and Bristol Sts., is almost ready for occupancy. The company, which is now located at 528 Cherry St., is arranging to remove to the new plant on or about October 1. Fifty looms and other machinery for the manufacture of window shade trimmings, etc., will be installed, the product being sold direct and through agents. The officers of the company are Jos. W. Maurer, president; William H. Maurer, secretary; Alex. C. Maurer, assistant treasurer; J. K. Laughlin, assistant secretary; and W. J. Maurer, second assistant secretary. The new mill will be run by electricity.

Pennsylvania, Philadelphia. Lewis E. Upham and Myron L. Upham, under the firm name of L. E. Upham & Son, have leased and are now fitting up a part of the building at 236 Chestnut St., for the manufacture of sewing threads, mercerized and glazed yarns. The plant will be equipped with coning, tubing and spooling machines which will be run by electricity, and the production will be sold direct.

Pennsylvania, Philadelphia. A. Bechtold, Front and Oxford Sts., embroiderer of hosiery, reports that on account of the heavy business on hand it will be necessary for him to double his plant. He is now seeking other and larger quarters and also arranging for the purchase of new machines.

Pennsylvania, Philadelphia. The Philadelphia Waste Co., of which Robert Dornan is the proprietor, has recently leased the building on Columbia Ave. above Blair St., in which he will manufacture wool waste, and for which he is now about to place orders for machinery necessary for this purpose.

Pennsylvania, Philadelphia. Upham Bros. & Co., Inc., Hancock and Oxford Sts., report that their business has greatly increased within the past few months. They are negotiating for a new location in which to remove their plant to enable them to increase its capacity, and also have in contemplation the installation of machinery for mercerizing and dyeing skein yarns and possibly warps. They are manufacturers of sewing cotton and mercerized and glazed yarns on cones, spools and tubes, and coners and reelers of all kinds of yarn for the trade.

Pennsylvania, Philadelphia. The Ideal Hosiery Printing Co., of which Frank T. Haring and George W. Glaser are the proprietors, which we recently reported as having removed their plant for the extracting, printing and dyeing of hosiery from 125 E. Herman St., Germantown, to 41 Ashmead St., report that they are now arranging for the equipment of the building on Herman St. for the dyeing of hosiery and are now on the market for machinery for this class of work. With this department in operation the company will be in a position to dye, extract, print and finish hosiery of all kinds. The machinery for the finishing department, which will be located in the Ashmead St. mill, has already been purchased and is now being set up.

Pennsylvania, Quakertown. The Harley Manufacturing Co., capitalized at $20,000, with F. L. Harley as pres., treas. and buyer, and G. G. Fretz, sec. and supt., manufacturers of cotton fly nets, webbings and cords, with two looms and other machinery, report that they are arranging for the purchase of a new building which they will equip with machinery for the purpose of enlarging their operations. They are using 6/3 and 8/3 cotton yarns and up to 20s warps. The plant is run by steam, electric and gasoline power and the producton is sold direct.

Rhode Island, Clayville. Some of the old equipment is being taken out of the upper mill of the Joslin Mfg. Co. and braiding machines installed in its place. The mill will be started up within a few weeks.

*Rhode Island, Pawtucket. The addition to the plant of the American Textile Company, just completed, will greatly increase the volume of output. A large amount of new machinery is being imported from English concerns. In April the capital stock of the American Textile Co. was increased from $500,000 to $1,000,000. Cotton and silk laces are manufactured.

West Virginia, Martinsburg. The Oriental Rug Co. will build a plant during the fall for the manufacture of their line of rugs made from old carpets and miss-print cotton fabrics. Edward L. Williams is pres. and treas. of this concern; J. W. Shaw, supt., and J. R. Mattern is buyer. The new plant will be operated by electricity. Capital stock is $5,000.

FAILURES AND SUSPENSIONS.

New Jersey, Paterson. The Taylor Silk Mfg. Co., operating a plant in the Hall Mill, has made an assignment for the benefit of its creditors. Anton Schmidt of New York was appointed assignee. The liabilities are about $80,000, and the principal creditors are importers of raw silk. In view of the prospect of a busy Fall season in the silk trade, the assignee believes that the company if given an opportunity will be able to pay all its obligations in full. The Taylor Silk Co. has capital stock of $10,000, and operates 125 looms on handkerchiefs, mufflers, dress and tie silks.

New Jersey, Salem. A receiver has been appointed for the Salem Knitting Mills. Early in July the plant was shut down ostensibly to give the operatives a vacation. D. Harris Smith, a lawyer of this city, has been appointed receiver. The Salem Knitting Mills is a corporation with capital stock of $70,000.

Pennsylvania, Clifton Heights. John J. McCloskey of 34 North Front St., Philadelphia, has been appointed receiver for the Caledonia Woolen Mills, an incorporated company with a capital of $50,000, James T. Stewart, pres.; William M. Longstreth, treas.; and S. G. Waterman, agent. The plant contains 6 sets and 102 narrow looms which were operated on cotton and wool mixed goods which they dyed and finished and sold direct. It is stated that the concern is unable to

continue business due to a lack of orders, and has no money on hand to pay insurance premiums, which are about due, and also that there is danger of the mortgage on the property being foreclosed on account of the non-payment of interest. There is a mortgage of $47,500 against the plant, $30,000 of open accounts, and about $36,000 of other debts. The company values its plant at about $69,000, with about $10,000 worth of machinery. The receiver, who was placed under a bond of $10,000, has been directed by the Court to file an inventory and appraisement as soon as possible, will take charge of the plant at once and it is said that the parties interested hope to put the mills on a paying basis again with the resumption of business.

FIRES.

*North Carolina, Concord. Number 4 mill of the Odell Mfg. Co. has been practically destroyed by fire, entailing a loss of several hundred thousand dollars. The fire originated in the basement through a hot box and the flames were communicated to the floors above by the belting. The burned mill contained 35,000 spindles and 1,300 looms. The Odell Mfg. Co. has been operated by the receiver, Caesar Cone, for the past year. The property is to be sold and a reorganization made in September.

*Oregon, North Bend. The recent fire at this place destroyed the woolen mills. The plant was owned by the Simpson Lumber Co. and has been closed down since the fall of 1904.

Pennsylvania, Conshohocken. The stockhouse of the H. C. Jones Company has been destroyed by fire.

Pennsylvania, Philadelphia. Daniel Scott's mill on Stenton St., above Germantown Ave., was recently burned out, the loss being estimated at $12,000. He manufactured cotton and woolen waste, shoddies, etc., which he sold direct.

Pennsylvania, Philadelphia. Fire of unknown origin has almost entirely destroyed the plant of the Overbrook Carpet Co., 56th and Lancaster Ave., entailing a loss of about $250,000. This plant, which was formerly operated by the defunct Dunlap Carpet Co., was taken over by the newly formed Overbrook Carpet Co. about eight months ago, the new company having a capital of $150,000, Thomas Crompton, pres. and A. G. Fromuth, treas. and manager. They re-equipped the mills with 149 looms on which they manufactured velvet, tapestry and axminster carpets and rugs, which they sold through New York.

Wisconsin, Milwaukee. Fire damaged the plant of the Columbia Knitting & Mfg. Co. The extent of the loss is not stated.

FACTS AND GOSSIP.

*Connecticut, Vernon. The plant of the Ravine Mills Co. is advertised for sale at public auction at 11 A. M., Sept. 15. The company has been in the hands of a receiver since Feb., '08.

Florida, Pensacola. It is reported that a Georgia cotton manufacturer is corresponding with the Packard Land Co. of this place, relative to the establishment of a cotton mill at this point.

Georgia, Athens. The cotton mills of this place have been forced to close owing to the flood in the Ocononee River.

Georgia, Athens. The Southern Mfg. Co. has put on a night force of operatives in order to meet the demand for its product. 20,000 spindles and 384 looms are run on husking cloth and canton flannels.

Georgia, Augusta. The Georgia Bagging & Tie Co. is reported to be contemplating the establishment of branch plants at Little Rock, Ark., and Memphis, Tenn.

Louisiana, Monroe. The Monroe Progressive League has addressed letters setting forth the advantages of this place for cotton manufacturing to the Farmers' Union and certain New England interests interested in Southern cotton mills.

Louisiana, Ruston. Information relating to the manufacture of cotton goods is being gathered by S. C. Huey and a meeting will be held shortly to discuss the subject.

Maine, Bridgeton. The Forest Mills Co. and the Pondicherry Co. are working on orders and on a normal basis of hours.

*Maine, Camden. The Camden Woolen Co. denies the report that arrangements have been completed for their taking over and operating the Mt. Battie Co.'s mill at the present time. It is understood, however, that the Camden Co. will eventually operate the Mt. Battie mill.

Maine, Camden. At a special stockholders meeting of the Mt. Battie Mfg. Co., it was voted to dissolve the corporation and take the necessary legal steps for the purpose. Suits against the company brought by some of the creditors, are still pending in the Courts. The plant, which contains 5 sets of wool cards and 40 broad looms, has been idle for some months.

Maine, Sanford. The Goodall Worsted Co. and the Maine Alpaca Co. have consolidated under the name of the Goodall Worsted Co., with captal stock of $1,000,000. The original capital stock of the Goodall Worsted Co. was $423,400, and of the Maine Alpaca Co. $207,400. The Worsted Co. has done the finishing and some of the spinning for the Alpaca Co. and the change is due to the decision that it would be to the interest of the stockholders who are practically the same is both corporations, to bring the concerns under one head.

Massachusetts, Boston. The Roxbury Carpet Co. of this place and the Saxonville Mill, of Saxonville, Mass., will return to the full operative schedule after Labor Day. These mills have been practically closed down for two months.

*Massachusetts, Clinton. The building formerly used as a power house by the Harris Comb Co. which is owned, and being repaired by, the Lan-

caster Mills Co., will not be used by them for manufacturing purposes.

Massachusetts, Holyoke. It is again reported that the Farr Alpaca Co. will erect a large building this fall on the land recently bought by them. Early reports of this enlargement were denied by the company.

Massachusetts, Lowell. It is reported that the Middlesex Co. has received a large government order for navy blue goods. A number of repairs are being made in this plant.

Massachusetts, New Bedford. Additional looms are being started at the Butler Mill and in the Dartmouth Mfg. Corpn. In the former plant, some departments of the spinning mill are running overtime. The looms just started in the Dartmouth mill have not been in operation since 1907.

*Massachusetts, North Adams. The details of the proposed reorganization of the Arnold Print Works are along the lines which had been anticipated. The creditors committee has given out details of the plan. Two corporations are to be organized, to be called the Arnold Print Works Co. and the Arnold Cotton Mills. The Arnold Print Works Co. acquires title to the print works plant owned by the Arnold Print Works and the Arnold Cotton Mills acquire title to the Eclipse Cotton Mill, now owned by the Arnold Print Works; and the cotton mills now standing in the name of Gallup & Houghton, the North Pownall Mfg. Co. and the Williamstown Mfg. Co. All the stock of the Arnold Cotton Mills is to be owned by the Arnold Print Works Co. The rest of the plan is substantially that creditors receive 50 per cent. of their claims in cash and the other 50 per cent. in first mortgage, 5-year, 6 per cent. bonds.

Massachusetts, North Andover. A report has been current that the Osgood Mills (M. T. Stevens & Sons Co.) were to shut down until September. The facts in this case are that the Osgood Mills have been running on a reduced schedule for some time but are now starting on full time and expect to maintain the full schedule.

*Massachusetts, South Royalston. The George Whitney Woolen Co. has filed a petition in the Supreme Court at Boston for dissolution of the corporation, it having ceased to do business, has paid all debts, and has no assets. The mill of this corporation passed into the control of the American Woolen Co. in March.

Massachusetts, Pittsfield. A meeting of Osceola Mfg. Co. was held and steps taken to dissolve the corporation. The company was organized in June, 1900, for the purpose of manufacturing woolen and cotton goods. It was capitalized at $25,000. After receiving its charter the company did not proceed with plans and disposed of its property, including a water right in West Pittsfield.

*Massachusetts, Stoughton. Business is brisk in the Chelsea Braiding Co.'s plant, which recently removed here from Chelsea. Their full equipment of 30 hands is now being employed.

Minnesota, Fosston. It is reported that the Fosston Woolen Mill has shut down and may remain closed until November 1. The company is, however, buying a large stock of wool.

*Minnesota, St. Cloud. The St. Cloud Woolen Mills, Inc., are being successfully operated under the direction of Simon Taylor, formerly of Spencer, Mass. The interest of Frank Mattock of Pillsbury has been taken over by C. D. Burgan, M. L. McElroy and Robert Harrison. Woolen fabrics and knitting yarns are the product.

*Mississippi, Kosciusko. Reports that the Kosciusko Cotton Mills have been sold are incorrect. The facts are that the mill may reorganize, but this is not certain as yet, the stockholders hesitating on any proposition which has been put forward. The equipment consists of 12,500 spindles and 324 looms which were operated on wide cotton goods and plain and fancy sheetings. C. K. Taylor is secretary and treasurer.

*Mississippi, Wesson. The Textile Mills Corp. has not decided, as yet, to make cotton bagging. In the event of taking up this line their present equipment will be suitable for the work.

New Jersey, Camden. It is reported that the plant of the Stokes & Taylor Co., located at Third and Federal Sts., in which they manufacture tapes, bindings, etc., on eight looms and six braiders, has been purchased by an attorney for parties located in Philadelphia who are about to start it up again. Investigation failed to confirm this report. The machinery is still at the old address. The property was sold recently at a receiver's sale.

New Jersey, Little Falls. Oath J. Hall of the Cascade Carpet Co., this place, has purchased the Charabay-Bodvin Silk Mill and it is reported will establish a carpet and rug factory there in September.

New Jersey, Millville. It is reported that the Millville Mfg. Co., which has been running half time since the winter of 1907, has received so much business that they are now working the plant up to its fullest capacity. The plant, which is known as the Manantico Bleach and Dye Works, contains 35,952 ring and 9,492 mule spindles, 864 twisting spindles 1.057 looms and 2 braiders, the production being sateens and fancies. John F. Reardon is the supt. and the Philadelphia office of the company is at 626 Chestnut St.

New Jersey, Mt. Holly. At the instance of their creditors, trustees have been appointed to operate the mill of the Royle & Pilkinton Co., who removed their plant from Philadelphia to this town several months ago. The company, which has a capital of $100,000; Harry C. Pilkinton, pres.; Charles Coles, treas.; and James T. Royle, supt., manufactured upholstery goods and tapestries on 60 looms, the production being sold direct. The trustees appointed by the creditors are: William M. Longstreth, Howard Holden and Charles Coles. It is thought that the trusteeship will continue for about two years, at which time the plant will again be in good financial condition.

New Jersey, Paterson. The Lenox Ribbon Company has been incorporated with capital stock of $30,000, half of which is paid in. The company includes several New York business men. An office is maintained at 51 Madison St.

New Jersey, Paterson. Negotiations have been completed for Carl Forsch, Joseph Whitehead and C. W. Weil to take over the plants and business of Pelgram & Meyer, operating plants in this city, Boonton, N. J., and Harrisburg, Pa. The new concern is a co-partnership. The name of Pelgram & Meyer, by which the company has been known, will be retained.

*New York, Cohoes. The sale of the mill properties of the bankrupt Walker & Harp Mfg. Co. has been ordered. This company manufactured medicated cotton batting and similar products, and was declared bankrupt early in June.

*New York, Gouverneur. The International Lace Co. has been incorporated with capital stock of $400,000. It was previously reported that the plant had been started up by the Bromleys of Philadelphia.

New York, New York. The American Thread Co. has received an addition to its working capital of $1,200,000, representing a call of $1.00 per share on the stock, on which at the time of its issuance only $3.50 of its par value had been paid. According to the recent report of the company, new funds were made necessary by the large extensions to the plants of the company and to meet future requirements.

New York, New York. The Continental Thread Co. has been incorporated to manufacture spool cotton, threads, etc. The capital stock is $5,000. Bertsch A. Lesser and Bella G. Lesser, 1623 Eastern Parkway, Max Golwasser and Esther Golwasser, 91 East Second St., all of Brooklyn, are the incorporators.

*New York, North Tonawanda. Early in July, James Sweeney, Jr., of Buffalo was reported to have bought property at this place which would be improved and used for textile manufacturing. This property was bought in the interest of the Niagara Silk Mills to take care of their future growth.

New York, Oswego. A report states that the Chamber of Commerce has received a proposition from a Mr. Craig of Pottsdam, N. Y., for the starting of a knitting mill with capital stock of $7,000. No information regarding the project will be given out by the Chamber of Commerce at the present time.

*New York, West Eaton. Creditors of the Frazer-Dale Woolen Co. have voted to reject the offer of 10 per cent. in settlement of their claim. The property will be sold.

*Oklahoma, Ardmore. It is again reported that the Commercial Club has practically closed negotiations with a cotton mill company for the erection of a mill at this place. Good inducements are offered and it is possible that their proposition has been accepted. The report is not definite, however.

Oklahoma, El Reno. The Canadian Cotton Co. has been incorporated with capital stock of $50,000. Frank E. Gillette of El Reno, W. A. Patterson of St. Louis, and Fred A. Gillette of Hobart, Oklahoma, are the incorporators. The company will deal in cotton and may manufacture.

North Carolina, Bessemer City. The stockholders of the Vermont Mills, Inc., have inaugurated a movement to again secure possession of the property. This company went into the hands of a receiver some time ago.

North Carolina, Burlington. The Williamson Mfg. Co. has been incorporated with capital stock of $125,000. S. L. Williamson, L. Banks Williamson and W. M. Baker are the incorporators.

North Carolina, Concord. It is reported that a new cotton mill corporation is being organized and that a sheeting mill will be built in this vicinity. W. L. Robbins is connected with this project.

*North Carolina, Greensboro. The Pomona Mfg. Co. has been adjudged bankrupt. F. H. Fries of Winston-Salem and J. C. Watkins of this place are continued as receivers, and A. E. Moore of Gastonia appointed co-receiver. The court advised against the sale of the mill at this time.

North Carolina, Jonesboro. The Park Mfg. Co. and the Eugenia Mfg. Co. have been purchased by D. E. McIver. The price paid is $43,000. It is understood the purchaser will re-organize the company. The Park Mfg. Co. has equipment of 100 looms which were run on sheetings, drills and osnaburgs, and the Eugenia Mfg. Co. is equipped with 3744 ring spindles which were run on 6s to 16s cotton yarns.

*North Carolina, Mount Holly. The Mount Holly Cotton Mills and the Albion Cotton Mills Co., reported incorporated last week, take over the plants of A. P. Rhyne. A. P. Rhyne is president and buyer and Henry A. Rhyne is treasurer. E. R. Cannon is interested.

*North Carolina, Rutherfordton. J. R. Gillian of Lynchburg, Va., has purchased the plant of the Levi Cotton Mills Co. for $58,000, but the sale will not be confirmed until Aug. 24. Mr. Gillian has not given out a statement regarding the disposition of the property, but it is understood that preparations will be made at once for forming a company and starting up the plant.

*North Carolina, Troy. The new power company in which S. J. Smitherman, president of the Smitherman Cotton Mills, was reported interested, has been incorporated as the Little River Power Co. From 1000 to 1200 horse power will be developed.

Pennsylvania, Bloomsburg. The property adjoining the Bloomsburg Silk Mill has been purchased by them for the sum of $20,000. It is not stated whether an enlargement is contemplated. The Bloomsburg Silk Mill operates 700 looms on silk dress goods.

Pennsylvania, Coatesville. The Ashley & Bailey Silk Co. has ordered the local plant to resume full time. Short hours have been worked for five months.

Personals.

Albert Guyer, superintendent of the Hermania Silk Mills, Hopkinton, Mass., has resigned and left with his family for Easton, Pa.

Bertrand A. Webber has accepted a position as superintendent of the Ashton Mills, Ashton, R. I., succeeding Robert Stewart, who has been appointed superintendent of the Lonsdale Company, Lonsdale, R. I.

C. Lester Oates, for the past three years superintendent of the Charlotte Cotton Mills, Charlotte, N. C., has been made assistant superintendent of the Dan River Cotton Mills, Danville, Va.

F. J. Muir, who resigned the position with the Cone Export & Commission Company to engage in the cotton manufacturing business at Fayetteville, N. C., has returned with his family to Greensboro.

James Fraser has accepted the position as dyer at the Tilton Mills, Tilton, N. H. He formerly held this same position.

Paul Dumas, second hand in the weaving department of the Blackstone Mfg. Company, for the past seven years, has severed his connection with that company.

Wm. McConville, overseer of the dyeing department at the Pemberton Mills Company, for the past fifteen years, has severed his connection with that company.

Harry Spurr has accepted the position as overseer of twisting and spinning for the Star Worsted Company, Fitchburg, Mass.

David B. Hart has accepted the position as overseer of finishing at the Chapel Mills Mfg. Company, Cherry Valley, Mass. He was formerly employed at the Morrison Woolen Company, Dexter, Me.

Arthur E. Cooper has accepted the position as assistant superintendent at M. T. Stevens & Company, at their Haverhill Mill, Haverhill, Mass.

John R. McLogan has accepted the position as oversed of dyeing at the Bemis Mills, Watertown, Mass. He was formerly employed at the Rhode Worsted Co., Stafford Springs, Conn.

Emil De Witte, overseer of dyeing at the Burlington Mills, Winooski, Vt., has severed his connection with that company.

Justin H. McCarthy has accepted the position as master mechanic at the Berkshire Cotton Mfg. Company's mills at Adams, Mass., succeeding F. M. French. Mr. McCarthy was formerly engaged at Chicopee, Mass.

Thomas Connelly has accepted the position as overseer of finishing at the Aetna Mills, Watertown, Mass. He was formerly employed at the Geneva Mills, Providence, R. I.

John A. Fitzgerald has accepted the position as overseer of dressing at the Indian Orchard Company, Indian Orchard, Mass. He was formerly employed at the Dwight Mfg. Company, Chicopee, Mass.

Roy T. Evans, overseer of carding at the Aldrich Mfg. Company, Moosup, Conn., has severed his connection with that company and accepted a similar position at New Bedford, Mass.

Clifton R. Hays, electrical engineer for the Ludlow Mfg. Associates, Ludlow, Mass., for the past five years, has resigned to accept the position as superintendent of the Fitchburg Gas & Electric Light Company, Fitchburg, Mass.

E. A. Mongeon, superintendent of the Lonsdale Company, Lonsdale, R. I., received from Goddard Bros. of Providence, agents of the company, a copy of the record of the meeting at which the company accepted his resignation which took effect August 1. The record declared that the stockholders recognize with gratitude the loyal and efficient service of Mr. Mongeon while in their employ.

James T. Broadbent, four years instructor of carding and spinning at the New Bedford Textile School, New Bedford, Mass., and previous to that time three years instructor in the same branch at the Bradford-Durfee Textile School, Fall River, Mass., has tendered his resignation to take effect September 1.

Geo. H. Briggs, general superintendent of the Taunton Mills, of the New England Cotton Yarn Company, was tendered a banquet at Odd Fellows Hall, Taunton, recently. He was presented with a large Colonial clock, valued at several hundred dollars, from his 1,500 employees and associates. Also a gold watch chain from Thomas F. Glennon, superintendent of the company.

Jos. Wilding, overseer of the No. 2 mule room of the Bennett Mills, New Bedford, Mass., since its organization in 1887, has severed his connection with this company and retired from active service.

M. H. Dorman, selling agent for the Lorraine Mfg. Co., Pawtucket, R. I., for the past 25 years, died suddenly.

J. M. Masson has been appointed superintendent of the Blackington Mfg. Co., Blackinton, Mass., succeeding John Griffiths. Mr. Masson has had a wide experience in large woolen mills in New England and will make a valuable man for the position.

Thomas Dugan has accepted the position as overseer of spinning at the Danielson Cotton Company, Danielson, Conn.

Forest V. Adams has accepted the position as second hand in the finishing department at the Pawcatuck Woolen Mills, Potter Hill, R. I.

Governor Ely of Norwich, Conn., has been appointed assistant manager of the Ashland Cotton Company, Jewett City. This is the only change in

the officers recently made. J. O. Sweet is treasurer of the company.

Chas. F. Good, overseer of the finishing, shipping and order departments of the Stark Mills, Manchester N. H., has severed his connection with that company. He is to accept a similar position with the Boott Mills, Lowell, Mass.

N. Graham Seddon has retired as overseer of beaming at the Massachusetts Cotton Mills, Lowell, Mass. The employes under Mr. Seddon presented the latter with a cut glass water service.

Fred Liebold, overseer of the weaving department for four years at J. O. Ballard & Company's woolen mill, Malone, N. Y., has severed his connection to accept a position with the Malone Shirt Company.

W. M. Abernathy has accepted the position as overseer of carding at the Lily Cotton Mill, King's Mountain, N. C.

E. M. Holliday has accepted the position as overseer of the cloth room at the Granby Mills, Columbia, S. C. He comes from Danville, Va.

J. S. Phillips has accepted the position as overseer of weaving at the New York Mills, Aragon, Ga.

C. H. May, formerly superintendent of the Levi Mill, Rutherford, N. C., has been appointed superintendent of the Elizabeth Mills, Egan, Ga.

F. D. Tool has severed his connection as superintendent of the Elizabeth Mills, Egan, Ga., to accept a similar position in a mill in Rhode Island.

W. A. Morris has accepted the position as overseer of carding for the Bibb Mfg. Company, Porterdale, Ga. He comes from Fork Shoals, S. C.

R. T. Grant, who has been overseer of the Charlotte Cotton Mills, Charlotte, N. C., and a number of years overseer of weaving at Cannon Mills, No. 1 and 2 at Concord, has taken the position of treasurer of The People's Drug Company, Concord, N. C., a new company just organized.

C. W. Rice, who formerly held the position as superintendent of the Norris Cotton Mill, Cateechee, S. C., has accepted the position as superintendent of the Orangeburg Mfg. Co., Orangeburg, S. C.

T. S. Bolton, of Rock Hill, S. C., has accepted the position as overseer of weaving at Augusta, Ga.

S. H. Howard, for some time overseer at China Grove, N. C., has accepted the position as overseer of carding and spinning in the Cannon Mill, Kannapolis, N. C.

At the annual meeting of the Williamston Mills, Williamston, S. C., the old board of directors were elected as follows: J. P. Gossett, E. A. Smyth, R. A. Lewis, T. H. Gossett, Dr. R. P. Ransom, B. F. Brown and B. B. Gossett. At a subsequent meeting James P. Gossett was re-elected president and treasurer, and B. B. Gossett, assistant treasurer.

M. L. Double, who for the past two years has been connected with the order department of the Sullivan Machinery Company, has severed his connection to accept a better one with the American Thread Company, at Milo, Me. He will enter upon his new duties about the first of September.

W. A. Turner is now superintendent of the Great Falls Mill, Rockingham, N. C.

Walter Smalley has succeeded Arthur Fish as overseer of spinning and carding at the No. 1 Tecumseh Mill.

James B. Doyle has resigned his position as boss dyer with the Niantic Mfg. Co., East Lyme, Conn.

Clarence L. Jackson of Somerville, N. J., has accepted the position as overseer of finishing at the Passaic Woolen Company, Passaic, N. J.

A. E. Cooper has recently taken the position as designer for the Haverhill Mill of M. T. Stevens & Sons Company.

Frank Perkins, late of Stafford Springs, Conn., has been engaged as overseer of finishing at the Nasonville Woolen Company, Nasonville, R. I.

B. W. Locke has severed his connection at Cooleemee, N. C., as master mechanic to accept a similar position at the Mills Mill, Greenville, S. C.

R. F. Gardner has accepted the position as superintendent of the Anna Cotton Mill, Phillipsburg, N. C. He was formerly boss carder at King's Mountain, N. C.

J. D. Beiers has resigned as overseer of the cotton department of the Atlanta Woolen Mills, Atlanta, Ga., and accepted a position in charge of the twister room of the Fulton Bag & Cotton Mills.

W. Brown Wylie has been elected president of the Tavora Cotton Mills, Yorkville, S. C., succeeding S. M. McNeill. He was formerly sixteen years clerk of the Court of York County.

S. B. Weir has severed his connection with the Wahoo Mfg. Company, Sargents, Ga., as overseer of spinning, spooling and twisting, to accept a position at Canton, Ga.

J. F. Clark has resigned his position of overseer of carding at Dennison, Tex., to take charge of spinning, spooling and warping in the No. 1 mill of the Fulton Bag & Cotton Mills of Atlanta, Ga.

A. S. White, superintendent of the cotton mill at Clayton, N. C., was married July 20th to Miss Blanche Barnes. Mr. White is counted among the successful men of the State.

J. R. Mallory, formerly superintendent of the Globe Mills, Gaffney, S. C., but who has been spending a few months in Alabama, has returned to accept the position as superintendent of the Irene Mills.

A. Culberson, formerly superintendent of the Calumet Mills, Liberty, S. C., and who recently held the position as superintendent of the Hugenot Mills, Greenville, has accepted a similar position at the Ella Cotton Mill, Shelby, N. C.

Fletcher Cox, formerly employed at the Eno Cotton Mills, Hillsboro, N. C., has accepted a position in the weave room of the Franklinville Mfg. Company, N. C.

W. W. Sheely, who formerly held the position as superintendent of the Crowder's Mountain Hill, King's Mountain, N. C., has accepted a similar position at the Blacksburg Cotton Mill, Blacksburg, S. C.

W. A. Toney has accepted a position in charge of the spinning room at the Hanover Mills, Concord, N. C. He comes from Bessemer City.

Pembroke Pierce has accepted a position as overseer of the pattern room in the mill of the Whittenton Mfg. Company, Taunton, Mass.

C. A. Franklin has severed his connection with the Walhalla Cotton Mills, Walhalla, S. C., as superintendent to accept a similar position with the Cox Mfg. Company, Anderson, S. C.

Roy Bennett, formerly overseer of carding for the Lawton Mills, Plainfield, Conn., has accepted a similar position with the Aldrich Mfg. Company, Moosup, Conn.

W. B. Moody has accepted the position as overseer of weaving at the Bernon Mills, Georgiaville, R. I., to succeed M. S. Leonard, who resigned.

Clarence L. Jackson, who has held the position as boss finisher for the Somerville Mfg. Company, Somerville, N. J., until their mills were closed, has accepted a similar position with the Passaic Woolen Company, Passaic, N. J. He succeeds John S. Clancey, who has returned to Camden, N. J.

A. J. Brazeal has severed his connection with the R. I. Worsted Company, Stafford Springs, Conn. His successor is Heywood Ramsden, who comes from the Riverside Woolen Company, Stafford. Frank W. Perkins has accepted the position as overseer of finishing for the latter company.

J. A. Gould has severed his connection as superintendent of the finishing department of the Wood Worsted Mill, Lawrence, Mass.

Edwin Ashton has severed his connection as overseer of weaving with the Blackinton Mfg. Company, Blackinton, Mass.

F. D. Toof has severed his connection with the Elizabeth Cotton Mills, Atlanta, Ga., as superintendent.

H. C. Greenlaw has severed his connection with the Whitman Mill, New Bedford, Mass., as overseer of carding. He will accept the position as superintendent of the B. B. & R. Knight's Nottingham Mill, Providence, R. I. His successor is Fergus Ferguson.

W. A. Toney has accepted the position as overseer of spinning at the Hanover Mills, Concord, N. C.

Frank Ross has severed his connection as manager of the sales department of the Flint Woolen Company, Flint, Mich., and has returned to Detroit.

Louis O. Demers has accepted a position as assistant foreman in the dyeing department of the Faulkner Mfg. Company, North Billerica, Mass.

Walter Ayer has severed his connection with the Robert Dobson Company's mill at Pittsfield, Me., and is to be succeeded by Wm. F. Cook of Sangerville.

M. V. Capeless has re-entered the employ of the Black River Woolen Company, Ludlow, Vt., as overseer of finishing.

John McCauley has accepted the position as overseer of finishing at the Pine Tree Worsted Company, Danielson, Conn. He comes from Putnam, Conn.

Hector Lavoie has accepted the position as overseer in one of the knitting departments of the Richmond Mill, South Scituate, R. I., succeeding Claude Barnes. He comes from Tremont, N. H.

Robert Blackwood has severed his connection with the Central Worsted Company, Central Village, Conn.

Jos. T. Davidson has severed his connection with the Piscataquis Woolen Company, Guilford, Me., to accept a similar position with the Campbell Woolen Company, Sangerville, Me. Harris Midwood has accepted the position as shear tender at the same company.

Harry Normington has accepted the position as overseer of carding at the Lawton Mills, Corporation, Plainfield, Conn.

Alfred Penkethman has accepted the position as overseer of burling and sewing at the J. J. Dobson, Bradford Mill, Germantown, Philadelphia.

Richard Williams, who was seriously scalded at the American Silk Dyeing & Finishing Company, Hawthorne, N. J., has instituted suit for $1,000 against the concern through his counsel, Ward & McGinnis.

J. F. Leonard, overseer of dyeing for the Amos Abbott Company, Dexter, Me., has severed his connection with that company.

Rawland Hartley has severed his connection with the Allenton Woolen Company, Allenton, R. I., as overseer of dyeing. The position has been filled by James Kennedy, formerly of Millbury, Mass.

Jos. H. Ridings, overseer of finishing at the Tremont Worsted Company, Methuen, Mass., has severed his connection with that company and accepted a more lucrative position with the Geneva Woolen Mills, Providence, R. I., as overseer of finishing. Just before Mr. Ridings severed his connection with the Tremont Worsted Company,

James English, shipping clerk, in behalf of the em-employes of the finishing room, presented him with a beautiful I. O. O. F. watch charm.

H. Chester Greenlaw, overseer of carding at the No. 1 Whitman Mill, New Bedford, Mass., has severed his connection with that company after two years' faithful service. He was presented with a handsome full jewelled Hamilton gold watch by the help on his retirement. He accepted the position as superintendent of the Nottingham Mills, Providence, R. I.

William H. Berry, Jr., of the Berry Engineering Co., Chester, Pa., and son of former State Treasurer of Pennsylvania, died recently, after a severe illness brought on by typhoid fever, at the age of 22 years. He was a graduate of Chester High School, and his business career gave great promise for the future.

General Jos. W. Congdon, president of the Phoenix Silk Mfg. Company, Paterson, N. J., has handed to the directors of the company his resignation. Some two years ago he notified the company that he intended to retire. He will still retain his interest in the business and expects to continue as a director.

O. B. Parker, formerly superintendent of the U. S. Cotton Company, Pawtucket, R. I., who has been connected with several cotton mills throughout New England, died at the R. I. Hospital August 19 after a long illness at the age of 56 years

Wm. S. Van Brocklin, one of the stockholders and general manager of the Johnstown Knitting Company, Johnstown, N. Y., has resigned on account of having business interests in Amsterdam which he feels demands his attention. At a meeting of the Board of Directors Wm. T. Briggs of Johnstown was chosen as his successor.

John V. Farwell, senior member of the well known Chicago firm of J. V. Farwell Company, died at his home at the age of 80 years. He was one of the oldest and most respected merchants in the West.

James Waite, for a number of years overseer of the felt carding at the old Bay State Corporation, Lawrence, Mass., and later with the Washington Mills before they failed, died at his home in Lawrence, Mass., at the age of 80 years. For the past fourteen years he has been engaged by his brother, Enoch Waite, of the American Felt Company.

It is stated that Paul Wise will be appointed agent of the Bigelow Carpet Company's plant, Clinton, Mass.

Frank Sanford, electrician for the Berkshire Cotton Mfg. Company, Adams, Mass., has severed his connection with that company.

Wm. Campbell, for a number of years overseer at West Warren, Mass., and Huntsville, Ala., died at Warren, Mass., at the age of 60 years. He was born in Paisley, Scotland, Dec. 14, 1847.

John McRobbie has accepted the position as overseer of the weaving department at the Osgood Mills, North Andover, Mass. He was formerly employed at the Stevens Mill.

Geo. Hughes has severed his connection as overseer of dyeing at the Union, Pascoag, R. I., because of failing health. He has been overseer for this company thirteen years. It is probable after a rest he will resume his duties.

T. H. Driscoll has accepted the position as second hand in the dye house of the Princeton Worsted Company, Trenton, N. J. He was formerly employed at the Dustin Island Woolen Company's Mill, Penacook, N. H.

Thomas Pender, overseer in the Adams Woolen Company, Adams, Mass., fell over a box in the mill and fractured his left arm above the elbow. He will be laid up for several weeks.

It is stated that Paul Wise will be appointed agent of the Bigelow Carpet Company's plant, Clinton, Mass.

Arthur Brassard, employed in the dyeing department for the Windsor Print Works, North Adams, Mass., had his right hand caught in the machinery and will lose two fingers as the result.

Wm. C. Davidson, overseer of weaving at the Parkhill Mills, Fitchburg, Mass., sailed from Boston for Scotland and will be absent for about six weeks. He was presented with a dress suit case and gold headed cane by the loom fixers before his departure for Scotland.

Hiram Haynes, overseer of dyeing at the Cushman Mills, Monson, Mass., has severed his connection with that company to accept a similar position at Worcester, Mass.

James Magner, overseer of dyeing for the Madison Woolen Company, Madison, Me., has severed his connection and will take a similar position with the Assabet Mills, Maynard, Mass.

John Curtis Cray, founder and ex-president of the Lockhart Cotton Mills, Lockhart, S. C., died at his home in Greenville, S. C.

J E. Bradley has resigned his position as boss dyer at the Knoxville Woolen Mills, Knoxville, Tenn., and returned to his home at Rockville, Conn.

A. W. Corey, overseer of weaving at the Selkirk Mills, Woonsocket, R. I., has severed his connection with that company.

Daniel Taft has resigned as boss of the combing department of the Acushnet Mills, New Bedford, Mass. His successor is Donald Dunn.

Pembroke Pierce has accepted the position as overseer of the pattern room at the Whittenton Mfg. Company, Taunton, Mass.

W. B. Moody has taken charge of weaving at the Bernon Mills, Georgiaville, R. I., succeeding M. S. Leonard, who resigned.

C. W. Carpenter, overseer of carding at the Bernon Mills, Georgiaville, R. I., has resigned to accept a similar position at Southbridge, Mass.

F. Hazen Cope, manager of the Cannon Mills, Philadelphia, Pa., has resigned to accept a position as selling agent in New England for the New Jersey Worsted Spinning Company, Garfield, N. J. His successor at the Cannon Mills is Martin Glenn.

W. P. Bodie, overseer of weaving at the Courtenay Mfg. Company, Newry, S. C., has resigned his position. His successor is Frank Allen of Anderson, S. C.

W. A. Morris has accepted the position as overseer of carding at the Bibb Mfg. Co.mpany, Potterville, Ga. He comes from Fork Shoals, S. C.

J. A. Martin has been elected president of the Gaston Mfg. Company, Cherryville, N. C.

W. B. Osborn has accepted the position as overseer of spinning, spooling, twisting and warping at the Ida Yarn Mills, Laurel Hill, N. C. He comes from Bennettsville, S. C.

W. C. Wates has accepted the position as overseer of carding at Yazoo City, Miss. He comes from Woodruff, S. C.

DEATHS.

Stephen Brownell, at one time connected with the Union Wadding Company, of Pawtucket, R. I., died at his home, 195 Beneford St., Providence, R. I. He was born in Union Village in the town of North Smithfield, March 14, 1822.

Martin Ochs died at his home, 120th St., New York City, on Sunday, August 2. He was born in Australia in 1834, and after coming to this country started a woolen yarn establishment at East Houston Street and became one of the pioneer woolen yarn manufacturers in the United States. He was also head of the Germania Knitting Company, and retired from active business in 1882.

Edward Akers, head of the firm of Akers & Taylor, manufacturers of woolen goods at Charlton City, Mass., died Aug. 5 at the age of 78.

Selwyn F. Brown, superintendent of the Fulton Bag & Cotton Mills, Atlanta, Ga., died suddenly of heart failure. Eighteen years ago he went to Augusta, Ga., where he was associated fifteen years with the Augusta factory. He was born in New Hampshire, in 1853.

Jacob F. Ettenheimer, a retired dress goods manufacturer, died at his home, 1428 Lexington Ave., New York City, at the age of 64 years. Two brothers and three sisters survive him.

Thos. O'Hara, one of the best known silk experts in this part of New England, died Wednesday, Aug. 5, at Newton Upper Falls, at the age of 76 years. He had been superintendent of silk mills at Newton Upper Falls up until three years ago, which position he retired from an account of his failing health. He is survived by two daughters and four sons.

William Brooks, overseer of the cloth room of the Troy Mills, Fall River, died last week from an operation after a long illness. He was 53 years old. Mr. Brooks was born in Blackburn, England, and came to this country when he was fourteen years of age. He is survived by a widow and five children.

Eugene Callahan died after a brief illness at his home, 43 Peck St., Fall River. For several years he had been employed as salesman in downtown stores and later engaged as clerk at the Algonquin Printing Company.

Henry White, a well known resident of Thompsonville, Conn., died at his home on Oak Ave of diabetes and other complications, after a long illness, at the age of 74 years. He was born in Kidderminster, Eng., and came to this country about 40 years ago. He became a hand loom weaver and entered the employ of the Hartford Carpet Corporation as such. Later he was section hand in the brussels department of the carpet works.

Conrad Steingruber, an embroidery manufacturer of Jersey City, N. J., died of hydrophobia at the age of 50 years, following the bite of a dog three weeks ago.

Wm. Brunner, a retired dry goods importer, died at the age of 85 years at his home, 1749 Broadway, New York City. He was for many years in business at 324 Broadway, and is survived by one son.

The father of Francois U. Stearns, treasurer of the Renfrew Mfg. Company, Adams, Mass., died suddenly at Weld, Me., at the age of 70 years.

Mrs. Harriet Sarah Hall, head of the firm of H. S. Hall, silk glove manufacturers, Jersey City, N. J., died August 21 after an illness of two weeks at her home, 232 Shawmut Ave., in that city. She was the widow of Thomas Hall, one of the pioneer lace manufacturers in the United States, who died in 1879.

Francis E. Hill, Jr., partner of the firm of Henry C. Kelly & Company, dealers in twine and cordage at 45-46 Franklin St., New York, was found lying on the floor shot through the head by his own hand, a revolver of heavy calibre being beside him. Two hours later he died at the Hudson Street Hospital.

New Publications.

[Any work noticed under this head can be obtained through the office of this journal.]

The Statute Law Relating to Patents of Invention and Registration of Designs; by J. W. Gordon. 188 pages, 5 1/2 by 8 1/2. Jordan & Sons, London, England. Price $2.00.

The agitation of the patent question makes this work of special interest. It deals with the English phase of the question. The author is an English lawyer who has written "Monopolies by Patents" and "Compulsory Licenses Under the Patents Acts."

Hand Book of Power Weaving (Der Webmeister fuer mechanische Weberei); by Franz Kraus, Inspector in the Weaving School at Hobenelbe, Germany; 94 pages, 6 1/2 by 9 1/2. Franz Deutice, Vienna, Germany. Price $1.25.

Part three of this work, recently issued, deals with dobby and jacquard weaving and is freely illustrated. The text is in German.

Textile Materials (Materiallehre fuer die Textilindustrie); by Joseph Spennrath; 175 pages, 7 by 10. Verlag von M. Krayn, Berlin, Germany. Price $2.50.

The second edition of this work has been carefully revised by the author, who is director of the Industrial School at Aachen. The work is divided into the following sections: Classification of Raw Materials. The Manipulation of Raw Materials. Shoddy and Similar Wastes. Fancy Yarn. Yarn Testing and Calculations. The text is in German.

Bleaching by Electricity (Die elektrische Bleicherei); by Leonhard Wagner, Nornberg, Germany. 33 pages, 6 1/4 by 9; A. Hartleben, Vienna, Austria. Price $1.00.

After a general account of the principles covering bleaching by electricity the author gives an illustrated description of various types of apparatus used for this process. The text is in German.

Distilling Water on a Large Scale; by Ludwig Bothas; 61 pages, 5 1/2 by 8 3/4; Julius Springer, Berlin. Price $1.00.

The author of this book, a Russian government official, deals with the problem of water distillation as it is encountered in large plants for supplying distilled water for drinking or boiler purposes. In the introduction he speaks of the many large installations in Russia, which have provided material for his study of the subject, which is treated under the following heads: Various Methods of Purifying Water. Building and Operating Distilling Plants. Economy in the Use of Distilled Water on Railroads. The Drinking Water Distilling Plant at Baku, Russia. The text, which is in German, is illustrated with a number of views of distilling plants.

How a Book is Made; by A. W. Unger; 116 pages, 4 1/2 by 7; B. G. Teubner, Leipzig.

In this volume the author deals with the manufacture of books as a fine art. First comes a very interesting historical sketch. This is followed by the following chapters: Technical Details of Book Construction. Paper. Manufacturing the Book. The Sale of Books. The book contains many excellent illustrations. The text is in German.

Removing Vapor from Work Rooms (Die Entnebelung von gewerblichen Betriebsrauemen); by Dr. Georg Adam; 52 pages, 6 1/2 by 9 1/2; Friedrich Vieweg und Sohn, Brunswick, Germany. Price $1.00.

A report made to the "Verein der deutschen Textilveredelungsindustrie," and published by permission of that association. It is divided into the following sections: Historical and Legal Phases. Is Vapor Injurious to the Health of the Operatives? Theory of the Formation of Vapor. Prevention by Removal of Surplus Steam. Prevention by Heating the Air of the Work Room. Removal of Vapor in Practice. This report has evidently been prepared without sufficient investigation of the problem as it is found in practice. The author has relied too much on theory and what has been written by others. As a result it lacks originality and value as a guide to the dyer who wants to know how to keep his dye house free from vapor. The text is in German.

Chemical Technical Lexicon (Chemisch-technisches Lexikon); by Dr. Josef Bersch; 960 pages, 7 by 10 1/2; A. Hartleben, Vienna, Austria. Complete in 20 parts. Price $5.00.

This work, of which the second edition is now being issued, contained over 17,000 recipes for all branches of industry. The editor, Dr. Josef Bersch, has been assisted by a corps of experts in comparing and revising the work, whose value as a book of reference has been demonstrated by the first edition. The first ten parts of the second edition are now ready for delivery. The text is in German.

Business Literature.

Air Moistening for Silk Factories; Carrier Air Conditioning Co., Buffalo, N. Y.

This illustrated booklet describes the installation recommended by this company for silk mills. It humidifies and controls the humidity automatically. It also provides a centralized system of heating and ventilation. The air is taken from out doors and is washed and purified so that no soot or dust is carried into the building.

Gas and Gasoline Engines. Olney & Warren, 66 Center Street, New York, N. Y.

This booklet describes a line of gas and gasoline engines, ranging in sizes from three to one hundred horse power. The advantages of this type of motive power are now generally recognized for all purposes within the limits of their application. These engines can be operated without any expensive or skilled attendant. They do not increase the insurance on buildings where they are placed, and when they are not running, the expense ceases. These engines are equipped so that either gas or gasoline may be used interchangeably.

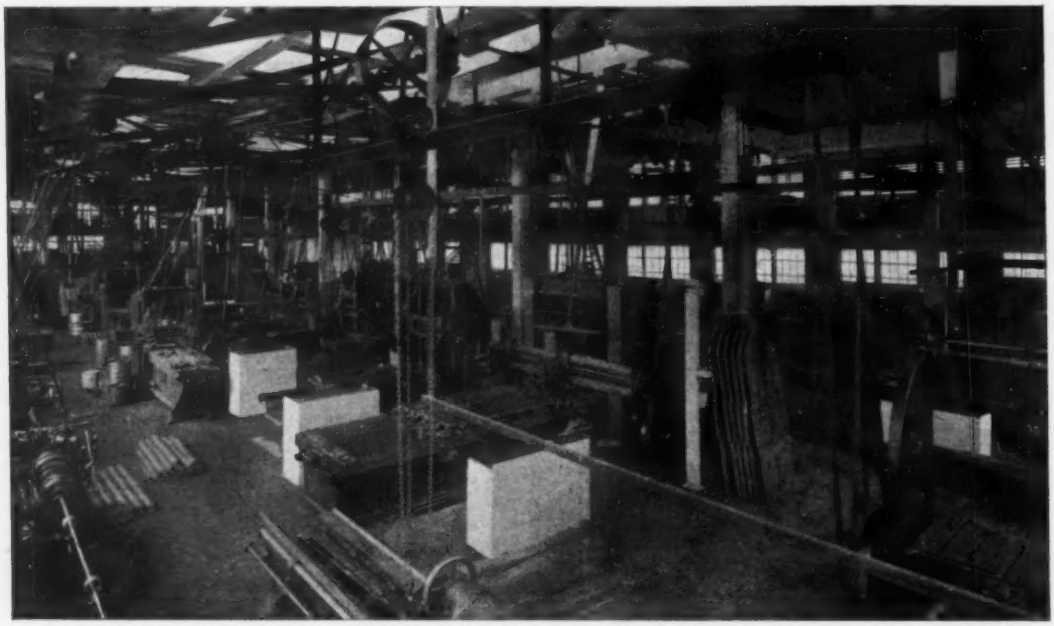
The Oswego Machine Works.

Recent improvements to the plant of the Oswego Machine Works, Oswego, N. Y., manufacturers of the Oswego and the Brown & Carver cutters, practically triple its facilities for manufacturing. This alone shows the splendid advances made by this company and further shows that the gold medals awarded its products by the judges at the Pan-American Exposition in Buffalo merely reflected the decision of that larger body of judges, the users of this class of machinery. The enlargement of the plant includes an extension to the main building, 200 ft. long, and the erection of an entire new building. This space has been equipped with the latest improved machinery, cranes and tools necessary for the production of the highest quality cutters. Other improvements include the laying of tracks connecting with every railroad entering Oswego, which affords facilities for shipping at least cost to any part of the United States or Canada.

In the construction of the new additions special attention was paid to the heating and lighting arrangements and fire protection, and in the equipment only the latest and best machinery was installed. Many of the heavier machine tools were built from special designs especially for this company as Mr. Neil Gray, Jr., the owner and efficient manager, believes that the best is not only the most satisfactory but the cheapest, and to produce he best high grade materials and machinery must be used.

One reason for the great success of this concern is the fact that it devotes its entire attention to cutting machinery, specializing on this branch and striving always to turn out the best machines. Persons who may reasonably be expected to speak authoritatively say that their plant is one of the largest and best equipped in the world.

The Oswego cutters may be found in every part of this country and the makers have within the past few months shipped machines to the Philippines and London. Mr. Gray, who is the leading figure in the rise of this concern is a man of proved ability and has had a practical and systematic training. He has invented and patented a number of devices used on Oswego and Brown & Carver cutters. For the textile trade they make cutters for knit goods, trimmings, woven cloth, sample cutters, pinking cutters, etc.



A VIEW OF THE OSWEGO MACHINE WORKS.

Removing to Saugatuck.

The Consolidated H. S. & L. M. Co., manufacturing mangles for ironing and finishing knit goods, are removing their factory to Saugatuck, Conn., from South Norwalk, where they have been located for a number of years. This company is successor to J. W. Craw Laundry Machinery Co. which consolidated with several other concerns in the same line of business and are now in excellent position to promptly supply the demands for their machinery. A great many Craw machines are in use in knitting mills on both heavy, medium and light weight goods. This company has given special attention to this department of work.

Selling Goods Direct to the Consumer.

American manufacturers who make goods for personal or domestic use are gradually awakening to the great possibilities of selling their goods direct to the consumer instead of, or in addition to, disposing of them through the jobber or retailer.

The man who has never tried this line of merchandising is likely to imagine that the extra profit of such a step would not be commensurate with the extra detail work involved. After selling goods in gross or case lots for years it is not an easy step to think about sales of a twelfth of a dozen or even a dozen. And were it not for the assistance that an advertising agency can give, probably many profitable mail order businesses that are now thoroughly established and growing greater year by year could never have been inaugurated.

The Nelson A. Chesnutt & Co. Advertising Agency of Philadelphia, which handles a vast amount of this business, claims to have profitably turned more manufacturers into mail order dealers than any other agency.

In talking about the matter the other day Mr. Chesnutt said: "All the manufacturer has to do to become a mail order merchant is to be prepared to fill orders in such lots as the consumer is likely to buy. If it is a washing machine or rug or a stove he ought to be prepared to sell it singly. If it is hosiery he ought to box them in lots of a dozen or half dozen pairs. He doesn't need to bother with any of the details of securing customers—we do that. We lay out the selling plan, subject to his approval, of course, select the advertising publications that we know are best suited to his line of goods and that will produce a maximum of results, and as the orders come in all he has to do is to fill them and thereby reap from 10 to 25 per cent. more on his outlet of merchandise than when he sells to the jobber. Does it pay? You bet it pays and the fact is rapidly dawning over the minds of manufacturers in all parts of the country.

"Sometimes it is desirable to avoid clashing with the jobbing trade by putting out the goods under another name. In this way the jobber is not affected at all and the manufacturer gets full retail price on his goods.

"We frequently come across a man who is quite willing to admit from what he hears of us that we can write advertisements about this, that and the other thing, but he claims that one must know all the details of his business in order to write his advertising properly. Such men are utterly mistaken and if they only knew the remarkably miscellaneous range of goods we are called upon to advertise, which we might say runs all the way from dainty French lingerie to steam engines, their ideas would be considerably changed. There is no line of goods about which we cannot write successful advertising, but for some time past we have been specializing on mail order advertising for mills and factories."

A Chevalier of the Legion of Honor.

President Fallieres has, on the recommendation of M. Pichon, Minister of Foreign Affairs, conferred the distinction of Chevalier de la Legion d' Honneur upon C. W. Macara, chairman of the Committee of the International Federation of Master Cotton Spinners' and Manufacturers' Associations, in recognition of Mr. Macara's services to the cotton industry of the world. This honor was conferred in connection with the fifth International Cotton Congress, recently held at Paris.

The Owyhee Oracle.

The Owyhee Mills of Norwalk, Conn., whose salesrooms are at 96 Spring St., New York, have issued the first number of the "Owyhee Oracle, a midget magazine of fabric facts," edited by Arthur A. Armington, and designed to keep their product favorably familiar with the trade. When looking for a first-class thing in woolen and worsted dress goods and suitings. The man who gets the Oracle will either take ten minutes to read it at once, or slip it in his pocket to read on the car or on the train. After he has read it, he will have learned several things, not only about Owyhee fabrics, but about textiles in general. Mr. Armington has a very happy knack of serving up business literature in an attractive fashion with just the right amount of spice.

Industrial Chemists form Separate Section.

An important step in the development of engineering chemistry in this country was taken at the recent New Haven meeting of the American Chemical Society by the organization of a division of industrial chemists and chemical engineers. Arthur D. Little, of Boston, was elected chairman of the division and vice-president of the society, and indicated in his address the broad field awaiting development by the new organization.

The division will include a large proportion of the membership of the society and especially those engineering chemists whose work is directly concerned with industrial development and progress. The division will begin the publication at an early day of The Journal of Industrial and Engineering Chemistry, for which a strong board of editors was elected.

Trade Schools in New York State.

Arthur D. Dean, who is well known to many of our readers in connection with his educational work, has been appointed Chief of the Division of Trade Schools in the New York Educational Department of which Andrew S. Draper is Commissioner. Mr. Dean assumed his new position on September 1st, and his duties will be to develop plans and perfect organizations for trade schools throughout the state.

Ampere and Crocker-Wheeler.

The island now known as Manhattan has had at various times 46 different names applied to it, ranging from Manetto and Manath to Munhaddons. The town of Ampere, N. J., is often called out of its name in spite of the natural simplicity of the word. Ampere is named after the celebrated French scientist, whose name is also used throughout the world as the unit of electrical current. Letters addressed to Ampere (which, by the way, is the only place in existence so named) have borne the following words: Amfere, Amphion, Amperre, Ampore, Ampee, Amperr, Ampre, Ampire, Ampier, Ampiere, Ampsere, Ampero, Amperc, Ampen, Ambere, Amerer, Ampeal, Ampeare, Amphere, Amphen, Ampicre, Auspere, Ampeere, Ampers, Amperel, Ampeu, Monpere, Onyiere.

The town was named Ampere by the Crocker-Wheeler Company, manufacturers of electrical machinery. The name of the company has been variously written as follows: Corcker-Wheeler Company, Crocker-Wheeller Company, Crooker-Wheeler Co., Crocker Water Motor Company, Croaker & Wheeler, Crocker-Wheeling Co., Crocker-Wheelwe Electric Co., Crocker-Wheel Co., Crocker-Wheeler Electric Co., Booker Wheeler Co., Brocker Wheeler Co., Crockett-Wheeler Co., Chrocker-Wheeler Co., Clocker Wheeler, Cricker-Wheeler Co., Rocker-Wheeler Co., Croker & Wilson Gas Engine Co., Croker & Wheeler Co., Croier Wheeler Elec. Co., Crocker-Wheeles Co., Croker Willer Dynamo Co., Croper & Weeler Co., Croker-Wheeler Co., Croquer-Wheeler Company, Crocker-Whaler Motor Co., Crocker-Wheelef Company, Wicker & Wheeler, Vrocker Wheeler Co., Wheeler & Crocke, Crocker-Williams Co.

Softening and Purifying Water.

The Youngstown Sheet & Tube Co., Youngstown, O., have contracted with Wm. B. Scaife & Sons Co., Pittsburgh, Pa., for an addition to their present 15,000 h.p. water softening and purifying system to provide for the 8,000 h.p. boilers which are being added for the operation of their new blast furnaces. The present water softening and purifying system is of the We-Fu-Go intermittent type, and consists of four large treating and settling tanks and four mechanical gravity filters. When the additional apparatus is installed, the system will consist of six large treating and settling tanks and seven mechanical gravity filters, and the total capacity will provide for 23,000 h.p. boilers, or 92,000 gallons of water per hour.

Since natural waters are rarely if ever found pure, water softening and purifying systems become a necessity for the greatest economy. Steam users are beginning to pay more attention to the water fed into their boilers, thereby effecting savings in fuel, labor for cleaning boilers, doing away with the use of compounds, and reducing repair bills. Some recent contracts taken by Wm. B. Scaife & Sons Co., Pittsburgh, are the following: Tennessee Coal, Iron & R. R. Co., 35,000 h.p.; Shenango Furnace Co., 8,000 h.p.; American Steel & Wire Co., 25,000 h.p.; Woodward Iron Co., 10,800 h.p.

Earning Capacity.

The earning capacity of cotton mills is dependent primarily upon the general economic situation of this country, although our exports to the Orient are quite an item. In three years we have shipped to China $53,000,000 as compared with England's export trade to China of $130,000,000. Trade returns show a world's market in 1907 for more than $500,000,000 worth of cotton cloth and our share of it reached the magnificent total of $15,000,000, while we supply less than one-third of one per cent. of the demand for cotton yarns. Not until we secure our share of the export trade will the cotton mills of our country show stable earnings. Our cycles of prosperity and depression are so frequent that they serve as a severe handicap from a manufacturing, commercial and financial standpoint, but if we could balance local economic reverses with prosperity in foreign countries and throw the balance of our production to export we would then maintain an equilibrium of earnings.

During the past year the cotton industry was more prosperous than in any previous year in the history of the cotton manufacture. "Plain goods" and "fancy goods" were alike in abnormal demand and earnings responded accordingly. Because of the broader market for plain goods, it does not necessarily indicate that stocks of "plain goods" mills are more desirable, for one must consider the average earnings for a period of years. There is no question but that greater dividends are being paid on "fancy goods" stocks than prints", but the aggregate amount of dividends paid since the incorporation of a particular "print goods" mill will compare very favorably with the same figure as a "fancy goods" mill.

The cotton industry is a tremendous opportunity, and it is within our power to develop this opportunity. It is on the threshold of the greatest economic development in the history of the country and if we put our shoulders to the wheel, within twenty-five years we will be manufacturing the greater portion of our entire production of raw material and be supplying the world's markets with finished products.

We can do this because our machinery is as good as any in the textile world. We have the advantage of the cotton yield within our own boundaries and there is reason to expect a greater efficiency of labor from our operatives by interesting them in the ownership of the industries, such as has already been accomplished very broadly in the manufacture of metals.

Perforated Canvas Baskets.

W. T. Lane & Bro. of Poughkeepsie, N. Y., make a special line of canvas baskets which are perforated for use as steaming or ageing baskets. They are made either with or without wooden shoes, in any shape to fit the steam box. They make canvas mill baskets for all purposes which are sold direct or through the principal supply houses.

Valuation of Mill Property for Taxes.

In a discussion of the taxable value of mill property, Chas. T. Main, engineer, of Boston, presents the following on this subject of never ending controversy:

"The public statutes of Massachusetts state that the assessors shall make a fair cash valuation of all the estate, real and personal, subject to taxation therein. It seems as though this definition of the cash value as the taxable value did not intend that assessors should consider the plant in the same light that a purchaser would, for the reason that the earnings cannot be included in the assessor's investigation, while they are the all important item to the purchaser.

"The average assessor knows but litttle about the physical qualities; to say nothing of going into the estimate of all the items which make a mill more or less profitable than other mills located elsewhere.

"It is not at all improbable that some mills which are running at a loss, or making a slight profit, would be better off to abandon their present site and move their machinery to some more favorable location.

"It may have been that when such a ruling was made the choice of locations was not as wide as now, and that it was intended not to consider such broad questions as must be considered by a purchaser, and which to him might render a property of no value to purchase, and yet it might represent a large amount of property.

"It would seem, therefore, that in considering the taxable value of a mill, the assessors must ignore the broad questions of labor, location, transportation, etc., and confine themselves to the physical condition of the plant existing at a certain place, which place is assumed to be advantageous to the carrying on of the business. Even in this limited consideration they cannot be as severe upon the plant as a purchaser would be.

"For example, suppose that the looms in a mill are old, and so constructed as not to be able to run at anything near the speed and production of modern looms, and that the price of weaving is consequently so much higher than on modern looms as to wipe out what would otherwise be a fair profit on the goods. A purchaser taking this into consideration would say that the looms were of no value; but, unfortunately, they are in the mill, and if the company prefers to keep them, they are taxable property, and the company is unfortunate which possesses much of such property to be taxed."

Demand for Winders.

An industrial note in our August issue relative to the machines, built by Jacob K. Altemus, for rewinding yarn on to shuttle bobbins, stated that the increase in the amount of yarn that can be put on to a bobbin by this machine is from 20 to 30 per cent. We are informed that 300 per cent. is correct, that is to say, three times the amount of yarn can be put on by the new machine over the old time system.

Harding, Fancourt & Scull.

The firms of Harding & Fancourt and Scull & Knight have combined, Henry R. Knight of the latter firm having sold his interests. The new firm will be known as Harding, Fancourt & Scull, and will do business at 1095 Germantown Avenue, Philadelphia. In addition to the line of oils, softeners, chemicals, etc., they will continue the manufacture of mill soaps hitherto conducted by Messrs. Scull & Knight.

The Turbo-Humidifier.

The G. M. Parks Co. of Fitchburg, Mass., who originally had selling agency for the turbo-humidifier in the United States and Canada only, have had their territory extended to include Mexico, Central America and South America.

Piping Contracts.

The contracts for the piping for the Warrenton Woolen Co., Torrington, Conn., in accordance with the plans of Chas. T. Main, mill engineer and architect, Boston, Mass., have been awarded as follows:

Power piping and piping for manufacturing purposes, to the G. M. Parks Co., Fitchburg, Mass.

Piping for steam heating, automatic sprinklers and plumbing, to William H. Morrison, of Torrington, Conn.

The Crocker Wheeler Company Opens New Office.

A new office has been opened in the Gumbel Building, Kansas City, Mo., by Crocker-Wheeler Company, Ampere, N. J., for the sale of C-W motors, dynamos, transformers, switchboards, etc. The office is in charge of Mr. A. W. Paine, who will give personal attention to business in Kansas City and vicinity.

Destitution Among French Weavers.

A severe crisis which some attribute to the financial conditions in America, others to over production and the high prices of linen yarn, exists at present among the linen weavers of Cambresis, France. Over 6,000 operatives are idle in communes. This lack of employment works especial hardship because of the small demand for agricultural labor at this time of year. The situation is becoming so serious that the Minister of the Interior has sent an inspector to make an investigation and relieve the more pressing cases. This official has visited a large number of communes and made careful inquiries among the city officials, the employers and the employes. On his return the government made a parliamentary grant of 8,000 francs.—L'Industrie Textile.

Recent Textile Patents.

BRAIDING MACHINE. 896,412. Robert C. Rahm, Wyomissing, Pa., assignor to Textile Machine Works, Wyomissing, Pa.

CARD FEEDERS. Automatic Stock-compensating Device for. 894,494. George F. Geb, Franklin, Mass.

CARDING MACHINE. 893,290. John J. Wehinger, Worcester, Mass.

CLOTH MARKER. 893,518. Webster F. Keller, Cincinnati, O.

COTTON GINNING Machinery. 894,605. John B. Cornwall, Moline, Ill., assignor to Barnard & Leas Mfg. Co., Moline, Ill.

DYEING. 893,384. Arthur Schlegel, Ludwigshafen-on-the-Rhine, Germany.

DYEING MACHINE. 895,023. Joseph Hussong, Camden, N. J.

FABRIC PASTING Machine. 894,976. Wm. J. O'Donnell, Gloversville, N. Y.

DYEING TEXTILE Fibers. Preparing Water Use in. 894,234. Gerhard Sanders, Paterson, N. J.

KNITTING MACHINE. 895,805. Robert W. Scott and Harry Swinglehurst, Philadelphia, Pa.

KNITTING MACHINE Automatic Stop Motion. 894,689. Jos. B. Rhodes, Harrisburg, Pa.

LOOM for the Manufacture of Tufted Pile Fabrics. Power. 894,287. Chas. Renard and Albert Renard, Nonancourt, France.

LOOM. Box. 896,003. Balthasar Fuhrer, Scranton, Pa.

LOOM. Circular. 895,512. Chas. Thibodeau, Somerville, and Winfred W. Harris, Winthrop, Mass.

LOOM Filling Replenishing Mechanism. 895,682. Alonzo E. Rhoades, Hopedale, Mass., assignor to Draper Co., Hopedale, Mass.

LOOM for the Manufacture of Tufted or Pile Fabrics. 895,630. Thomas Greenwood, Wolverley, near Kidderminster, England.

LOOM Thin-place Detector. 895,591. William J. Stewart, Webster, Mass.

LOOM Transferring Mechanism. Automatic Filling-replenishing. 896,014. Ubald Hebert, Manchester, N. H.

LOOM. Weft Replenishing. 896,015. Ubald Hebert, Manchester, N. H.

SPINNING and Twisting Apparatus. 895,701. John H. Turcotte, Indian Orchard, Mass.

LOOM BRAKE Mechanism. 895,058. Frank H. Thompson, Hopedale, Mass., assignor to Draper Co., Hopedale, Mass.

LOOM Picker Stick Connection. 895,252. Luke F. Gillespie, Newburgh, N. Y., assignor to Jones & Hardy, Hudson, N. Y.

LOOM Stop-motion. 894,521. Fletcher Mitchell and Conrad A. Knudsen, Philadelphia, Pa.

LOOM Weft Stop Motion. Wire. 894,244. Frank L. Traudeau, Worcester, Mass., assignor to Wright Wire Co., Worcester, Mass.

LOOMS. Cloth Controlling Mechanism for. 894,358. Adolph Widmer and Samuel Widmer, Paterson, N. J.

MANGLE. 896,174. Reinhard Thoss and Paul Roehrich, Altona, Germany.

SILK. Ungumming Raw. 895,112. Peter Schmid, Basel, Switzerland.

SPINNING and Twisting Machines. Underclearer or "Fluker" for. 895,131. Thomas D. Williams and William Greenwood, Oldham, England.

THREAD CUTTER. 896,503. Nicholas Zogg, New York.

UNDERGARMENT. 894,840. Chas. H. Little, Piqua, Ohio.

WARPING Machines. Electric Stop Motion for. 894,283. Frederick Ott, South Bethlehem, Pa.

WINDING MACHINE. 894,273. John H. Lendi and Albert H. Simmons, Chicago, Ill., assignors to Belden Mfg. Co., Chicago, Ill.

LOOM. Weft Replenishing. 896,800. John W. Carr, Manchester, England, assignor to William Windle, Prescot, England.

Trade-Marks.

"U. S. School Boy" Hosiery. Davis Hosiery Mills, Chattanooga, Tenn.

"Leolastic." Garter, suspender and belt webs. Moore Web Co., Fall River, Mass.

"Littlady." Jackets and outer skirts. Wm. Bloom, N. Y.

"The Plaza." Waists and shirt waist suits. Edward Isaacs & Co., New York.

"Ever Faithful." Cotton ducks, drillings and sheetings. J. Spencer Turner Co., N. Y.

"Midget." Playsuits or rompers. Sweet, Ordd & Co., New York.

"Uknowit." Cotton piece goods. Tootle Campbell Dry Goods Co., St. Joseph, Mo.

"Velutina." Velveteens. J. Hallworth & Son, Manchester, England.

"Racquet." White and colored cotton dress goods. L. Hess & Co., Inc., New York.

"Electra." Woven silk fabrics. Phalanx Silk Mill, Jersey City, N. J.

"Show Me a Better Brand." Men's and boys' overalls, jackets and pants. Hundley Dry Goods Co., St. Joseph, Mo.

"Braidetts." Shoe laces. Christopher E. Hertlein, New York.

"Paonette." Cotton velvets. Louis Roessel & Co., New York.

"Ugeta." Sweat-shields and belts. Mark Bernstein, New York.

"Echo Bridge." Lace and muslin window curtains. Martin Mfg. Co., Newton, Mass.

"U. S. Soldier Girl." Hosiery. Davis Hosiery Mills, Chattanooga, Tenn.

"Charmeuse." Silk piece goods. L. & E. Stirn, New York.

"Black Crow." Bleached cotton goods in the piece. Deering, Milliken & Co., New York.

"Mother Goose." Hosiery. A. B. Andrews Co., New York.

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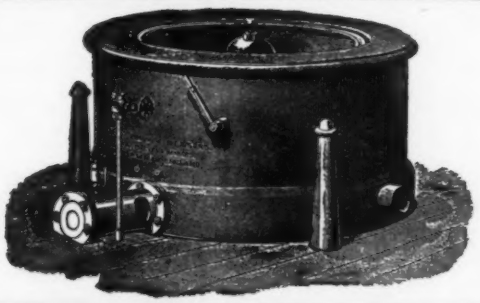

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The addresses of builders of mill machinery and dealers in mill supplies, whose names appear in the following classified index, may be found upon referring to their advertisements. The Alphabetical Index to advertisers follows this classified list. Buyers who are unable to find in the classification here given such machinery or supplies as they desire, are invited to communicate with the publishers, who can, in all probability, refer them to proper sources. Advertisers whose names do not appear under desired headings will please notify the publishers. Such omissions are accidental, not intentional.

Advertising Agents.
Chesnutt, Nelson A., & Co.

Air Moistening System.
American Moistening Co.
Buffalo Forge Co.
Carrier Air Conditioning Co. of America.
Cramer, Stuart W.
Parks, G. M., Co.

Architects and Mill Engineers.
Ferguson, John W.
Cramer, Stuart W.

Asbestos.
Norristown Magnesia & Asbestos Co.

Asphalt Tanks.
Scaife, W. B., & Sons.

Automatic Feeds for Cotton and Wool.
American Drying Machinery Co.
Kitson Machine Co.
Leigh, Evan A.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Schofield, Wm., Co.
Woonsocket Machine & Press Co.

Bale Ties.
Acme Steel Goods Co.
DeHaven Manufacturing Co.

Baling Presses.
Philadelphia Drying Mchy. Co.
Minnich Machine Works.
Sullivan Machinery Co.

Bandings.
——See under Yarns.

Baskets.
Lane, W. T., & Bro.

Bearing Metals.
Dodge Mfg. Co.

Belting.
Burnham, E. E., Co.
Candy Belting Co.
Rhoads, J. E., & Sons.
Shultz Belting Co.
——See also Mill Supplies.

Belt Dressing.
Cling Surface Mfg. Co.
Dixon, Jas., Crucible Co.
Shultz Belting Co.
Stephenson Mfg. Co.

Belt Lacing Machines.
Birdsboro Steel Foundry & Machine Co.

Bindings.
——See Tapes and Braids.

Bleaching Kiers.
Arlington Mch. Wks. (Arthur Birch, prop.)
Philadelphia Drying Machinery Co.
Textile Finishing Machinery Co.

Bleaching Materials.
Bosson & Lane.
Danker & Marston.
Roessler & Hasslacher Chemical Co.

Blowers and Blower Systems.
American Blower Co.
Buffalo Forge Co.
Dean Bros. Steam Pump Works.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.
Schnitzler, Chas. H.

Bobbins, Spools, Shuttles, Etc.
American Supply Co.
American Textile Specialty Mchy. Co.
Leigh, Evan A.
Lestershire Spool & Bobbin Co.
Tebbets, E. L., & Co.
Wilson & Co.

Bobbin Winders.
Universal Winding Co.

Boiler Inspection and Insurance.
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Boilers.
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Boxes, Cloth Boards, Etc.
Pearson, J. T.

Box Strapping.
Acme Steel Goods Co.
De Haven Mfg. Co.

Braiding Machinery.
New England Butt Co.
Textile Machine Works.

Braids.
——See Tapes, Braids and Edgings.

Brass Hinges.
Root, C. J., Co.

Bridges.
Scaife, W. B., & Sons.

Brushers.
——See Napping Machines.

Brushes.
Felton, S. A., & Son Co.
Mason Brush Works.

Burr Pickers.
Curtis & Marble Machine Co.
Sargent's, C. G., Sons.
Smith & Furbush Machine Co.

Calico Printers' Machinery and Supplies.
Arlington Mch. Wks. (Arthur Birch, prop.)
Birch Bros., Somerville Machine Wks.
Butterworth, H. W., & Sons Co.
Taunton-New Bedford Copper Co.
Textile Finishing Mchy. Co.
——See also Dyeing, Bleaching, Machinery, etc.

Canvas Baskets.
Lane, W. T., & Bro.

Caps.
Calder Machine Works.

Carbonizing Machinery.
Birch Bros., Somerville Machine Wks.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Tolhurst Machine Works.

Card Clothing.
Ashworth Bros.
Howard Bros. Mfg. Co.
Leigh, Evan A.
Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.

Card Cutting.
Vial, Pierre.

Carded Cotton.
Blaisdell, S., Jr., Company.

Card Feeds.
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Card Grinding Machinery.
Entwistle, T. C., Co.
Leigh, Evan A.
Riley, C. E., Company.
Smith & Furbush Machine Co.
Stoddard, Haserick, Richards & Co.

Carders' Tools.
Brown, Wm. H., Co.

Carpet Machinery.
Altemus, Jacob K.
Curtis & Marble Machine Co.
Philadelphia Textile Machinery Co.
Smith & Furbush Machine Co.

Castings.
Farrel Foundry and Machine Co.
Schofield, Wm., Co.

Cell Driers.
Cell Drier Machine Co.

Cement Pans.
Scaife, W. B., & Sons.

Chemicals.
Harding & Fancourt.
Roessler & Hasslacher Chemical Co.
Vera Chemical Co.

Chemists.
Little, Arthur D.

Cling Surface.
Cling Surface Mfg. Co.

Clocks.
Pettes & Randall Co.

Cloth Boards.
Chaffee Bros.
Frontier Supply Co.
Pearson, J. T.
Richardson Brothers.

Cloth Cutting Machinery.
Cameron Machine Co.

Cloth Stretchers.
American Finishing Machinery Co.
Arlington Mch. Wks. (Arthur Birch, prop.)
Leyland, Thomas, & Co.
Textile Finishing Machinery Co.

Clutches.
American Tool & Machine Co.
Dodge Mfg. Co.
Hunter, James, Machine Co.

Combs (Wool and Cotton).
Hood, R. H., Company.
Jefferson, Edward & Brother.
Leigh, Evan A.
Philadelphia Textile Machinery Co.
Riley, C. E., Company.
Stewart & Sons.
Stoddard, Haserick, Richards & Co.

Condensers.
Dean Bros. Steam Pump Works.

Conditioning of Textile Fabrics.
New York Silk Conditioning Works.

Consulting Electrical Engineer.
Puffer, William L.

Conveying Systems.
Buffalo Forge Co.
Dodge Mfg. Co.
Sturtevant, B. F., Co.

Cop Spindles.
American Textile Specialty Mchy. Co.

Cop Tubes.
American Textile Specialty Mchy. Co.
——See Paper Tubes.

Copper Print Rollers.
Taunton-New Bedford Copper Co.

Coppersmiths.
Badger, E. B., & Sons Co.

Copper Work for Dyers.
Butterworth, H. W., & Sons Co.
Textile Finishing Machinery Co.

Cork Inserts.
National Brake & Clutch Co.

Corrugated Iron and Steel.
Scaife, W. B., & Sons.

Cotton.
Blaisdell, S., Jr., Co.
Charles, W. B.
Riley, C. E., Company.
Schwartz, L. H. A., & Co.
Stoddard, Haserick, Richards Co.
Telar & Hart.

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American Textile Specialty Mchy. Co.
Ashworth Bros.
Brockway & Meckenstrum.
Butterworth, H. W., & Sons Co.
Cramer, Stuart W.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Draper Company.
Easton-Burnham Co.
Elliott & Hall.
Entwistle, T. C., Co.
Firth, William, Co.
Howard & Bullough American Mach. Co.
Kilburn, Lincoln & Co.
Kitson Machine Co.
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Lowell Machine Shop.
Mason Machine Works.
McKerrow, H. G., Co., Ltd.
Metallic Drawing Roll Co., The.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Providence Machine Co.
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Saco & Pettee Machine Shops.
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Schwartz, L. H. A., & Co.
Smith & Furbush Machine Co.
Stafford Co., The.
Stoddard, Haserick, Richards & Co.
Textile Finishing Machinery Co.
Textile Machinery Co.
Whitin Machine Works.
Woonsocket Machine & Press Co.

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Howard & Bullough American Mach. Co.
Kitson Machine Co.
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Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.

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Bosson & Lane.
Burckhardt & Co.
Danker & Marston.
Harding & Fancourt.
Nicetown Mfg. Co.

Cotton Waste.
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Charles, W. B.
Schofield, Edwin F.

Counting Machines.
Root, C. J., & Co.

Crayons.
Dixon, Jos., Crucible Co.
Howe Mill Crayon Co.
Lowell Crayon Co.

Cutting Machines.
Cameron Machine Co.
Oswego Machine Works.

Cylinder Oil (Superheated Steam).
Power Specialty Co.

Dextrine.
Stein, Hirsh & Co.

Dobbies.
Crompton & Knowles Loom Works.
Kilburn, Lincoln & Co.
Stafford Co., The.

Dobby Chain.
Nuttall, George.

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Jefferson, Edward & Brother.
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Metallic Drawing Roll Co., The.

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American Blower Co.
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Birch Bros., Somerville Machine Wks.
Buffalo Forge Co.
Butterworth, H. W., & Sons Co.
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Hunter, Jas., Machine Co.
Jefferson, Edward & Brother.
Kenyon, D. R., & Son.
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Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Sturtevant, B. F., Co.
Textile Finishing Machinery Co.
Tolhurst Machine Works.

Drying Boards.
Bull, William C.
Pearson, J. T.
Philadelphia Drying Mchy. Co.

Dusters.
——See Wool and Waste Dusters.

Dust Collectors.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Dyers, Bleachers and Finishers.
Brophy's, T., Sons.
Davidson, J. F.
Davis & Quick.
Firth & Foster Co.
Globe Dye Works Co.
Home Bleach & Dye Works.
Lorimer's, The Wm. H., & Sons Co.
Pawtucket Dyeing & Bleaching Co.
Peerless Co.
Rowland, Samuel.
Solway Dyeing & Textile Co.
Utica Willowvale Bleaching Co.
Western Thread & Dye Works.

Dyeing, Drying, Bleaching and Finishing Machinery.
Allen, William, Sons Co.
American Blower Co.
Arlington Mch. Wks. (Arthur Birch, prop.)
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Birch Bros., Somerville Machine Wks.
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Butterworth, H. W., & Sons Co.
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Curtis & Marble Machine Co.
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Hopkins Machine Works.
Hunter, James, Machine Co.
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Vacuum Dyeing Machine Co.

Dye House Cans.
Hill, James, Mfg. Co.

Dye House Trucks.
Bailey, Frank.

Dye Sticks.
Bailey, Frank.
Haedrich, E. M.

Dye Tubs.
——See Tanks, Tubs and Vats.

Dyestuffs and Chemicals.
American Dyewood Co.
Atteaux, F. E., & Co.
Badische Co.
Berlin Aniline Works.
Bischoff & Co.
Bosson & Lane.
Cassella Color Co.
Chemische Aniline Works.
Danker & Marston.
Kalle & Co.
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Geisenheimer & Co.
Johnson, Chas. A., & Co.
Klipstein, A., & Co.
Leyland, Thos., & Co.
Metz, H. A., & Co.
Roessler & Hasslacher Chemical Co.
Sykes, Walter F., & Co.
Thayer, Ed. M., & Co.

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——See Electric Lighting.

Edgings.
——See Tapes, Braids and Edgings.

Electrical Construction.
Crocker-Wheeler Co.
General Electric Co.
Sturtevant, B. F., Company.
Westinghouse Electric & Mfg. Co.

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Puffer, William L.

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Electric Fans.
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Buffalo Forge Co.
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General Electric Co.
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Philadelphia Textile Machinery Co.
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Electric Lighting.
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General Electric Co.
Sturtevant, B. F., Co.
Westinghouse Electric & Mfg. Co.

Electric Motors.
——See Motors (Electric).

Elevators.
Salem Elevator Works.

Embossing Machines.
Cameron Machine Co.

Employees' Time Recorders.
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Fishkill Landing Machine Co.

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Buffalo Forge Co.
Sturtevant, B. F., Co.
Power Specialty Co.

Expansion Joints.

Fans—Exhaust and Ventilating.
——See Ventilating Apparatus.

Feed Water Heaters.
Scaife, W. B., & Sons.

Feed Water Pumps.
Dean Bros. Steam Pump Works.
Goulds Mfg. Co.

Feed Water Purifiers.
Dodge Mfg. Co.
Scaife, W. B., & Sons.

Feeds.
——See Automatic Feeds.

Feed Water Regulators.
Berry Engineering Co.

Felt Hardeners.
Farrel Foundry and Machine Co.

Felting Machinery.
Farrel Foundry and Machine Co.

Filters.
Hungerford & Terry.
Norwood Engineering Co.
Scaife, W. B., & Sons.

Finishing Machinery.
——See Dyeing, Drying, Bleaching and Finishing.

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Borgner, Cyrus, Co.

Fire Extinguishers.
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Jefferson, Edward & Brother.
Riley, C. E., Company.
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Bodden, Wm., & Son, Ltd.
Calder Machine Works.
Hopkins Machine Works.
Jefferson, Edward & Brother.
Leigh, Evan A.
Textile Machinery Co.

Fly Wheels.
Dodge Mfg. Co.

Forges.
Sturtevant, B. F., Co.

Friction Clutches.
—See Clutches.

Friction Cones.
Evans, G. Frank.

Friction Rings (Cork Insert).
National Brake & Clutch Co.

Fuel Economizers.
Buffalo Forge Co.
Sturtevant, B. F., Co.

Fulling Mills for Woolen Goods.
Hopkins Machine Works.
Hunter, Jas., Machine Co.
Kenyon, D. R., & Son.

Furnaces (Automatic Smokeless).
Murphy Iron Works.

Garnetts.
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Smith & Furbush Machine Co.

Gas Blowers and Exhausters.
American Blower Co.
Sturtevant, B. F., Co.

Gas Engines.
Jones, Lewis.
Olney & Warrin.

Gaskets (Superheated Steam).
Power Specialty Co.

Gassing Machines.
Stubbs, Joseph.

Gauges.
Crosby Steam Gage & Valve Co.
Walworth Manufacturing Co.

Gears.
Dodge Mfg. Co.
Farrel Foundry and Machine Co.
New Process Raw Hide Co.

Gear Cutting.
Farrel Foundry and Machine Co.

Gear Cutting Machine.
Whiton, The D. E., Co.

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Geyser Water Heater.
Sargent's Sons, C. G., Corp.

Greases.
N. Y. & N. J. Lubricant Co.

Heating.
—See Ventilating Apparatus.

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Howard Bros. Mfg. Co.
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Economy Engineering Co.

Hosiery Boards.
Pearson, J. T.
Philadelphia Drying Machinery Co.

Hosiery Labels.
Kaumagraph Company.

Humidifying Apparatus.
American Moistening Co.
Carrier Air Conditioning Co. of America.
Cramer, Stuart W.
Parks, G. M., Co.

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Dubied, Edouard, & Co.
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Grosser Knitting Machine Co.
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Jenckes, E., Mfg. Co.
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Wildman Mfg. Co.

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Norristown Magnesia & Asbestos Co.

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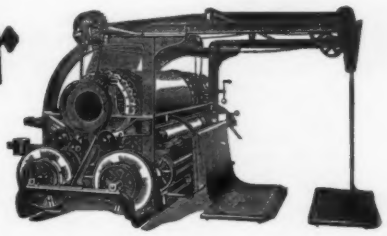

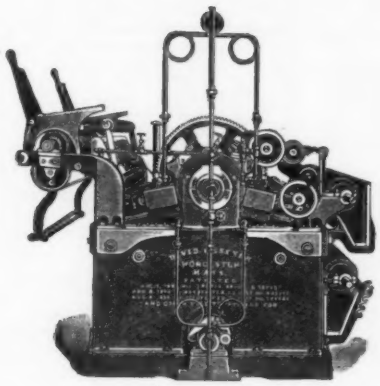

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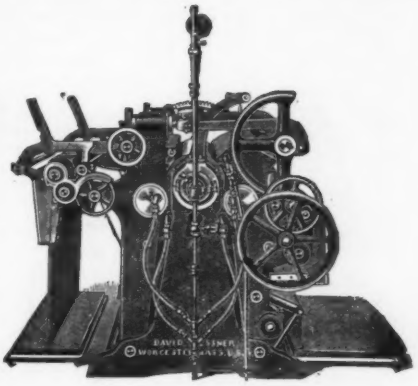

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Spence & Rideout.
Sullivan Machinery Co.
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Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.

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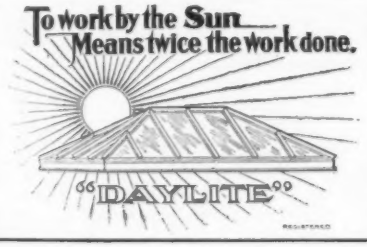

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A **First Class Man** to take charge of a department in factory manufacturing **flat and ruffled Swiss curtains.** For information apply to Overseer's Bureau, Textile World Record, Boston, Mass.

WANTED by A WOOLEN HOSIERY MILL

located in the MIDDLE WEST, a thoroughly competent overseer of dyeing and finishing. Must be a good manager of help and must have had experience in a hosiery mill. State salary wanted, age, whether married or single and experience, with references. Address Middle West, care of Textile World Record, Boston, Mass.

WANTED
A First Class Knitting Mill Superintendent.

One accustomed to making both flat and ribbed under wear of high quality. Good permanent position for first class man. Address "A1," care Textile World Record, Boston, Mass.

Hosiery Office Manager Wanted

A man thoroughly familiar with hosiery business to take charge of office of large hosiery mill. Must be a thorough bookkeeper. A first class position for right man. Stock or interest in one of the largest institutions can be acquired by the right party if so desired. Address "N. C. P." Textile World Record, Boston, Mass.

WANTED
A Thoroughly Capable Salesman

of Sizing and Finishing Materials, for cotton, wool and silk,—second class man not considered. Address "Manufacturer," care Textile World Record; Boston, Mass.

Situations Wanted.

The following advertisements are a portion of those of superintendents and overseers, of whom full particulars are on file at this office. Manufactu ers who may be in need of such men may address them in care of Textile World Record, Boston or state their requirements directly, and the addresses of suitable men will be furnished without charge.

Mr. C. T. Donlevy, a practical mill overseer and superintendent, who has a wide acquaintance with mill men, gives special attention to this department. He would be pleased to hear from any of his friends who may be interested. Address Textile World Record, 144 Congress St., Boston, Mass.

COTTON SUPERINTENDENTS.

Superintendent of a cotton cloth mill; worked on fine and coarse, plain and fancy goods, including ginghams, corduroys khaki goods, lawns, etc. Familiar with all makes of machinery; good reference; 49 years of age, married. 4122, Textile World Record, Boston, Mass.

Superintendent of a cotton or worsted mill or boss weaver in a large mill; worked on all kinds of cotton and worsted dress goods and men's wear, novelties of all kinds; practical loom fixer, designer, etc.; familiar with Crompton & Knowles box looms, dobbies, jacquards, etc.; also Bridesburg and Woods looms; 42 years of age, married; good reference. 4145, Textile World Record, Boston, Mass.

Superintendent or Agent of a cotton mill; worked on cotton yarns and cloths; considered an expert on either; familiar with all makes of machinery; good reference; 50 years of age, married. 4130, Textile World Record, Boston, Mass.

Assistant Superintendent or designer in a cotton mill. 34 years of age, American, married. Worked on denims, tickings, linings, dress goods, shirtings, cottonades, outings and plaids. Familiar with up-to-date machinery used in different departments in a mill. Will not go West or Canada. Good reference. 4591, Textile World Record, Boston, Mass.

WOOLEN SUPERINTENDENTS.

Superintendent or Manager in woolen mill, or designer, assistant superintendent, or both in a good mill. Position wanted by a man 55 years of age, American. Worked on fancy cassimeres, suitings, wool and worsted, face goods, kerseys, thibets, ladies' dress goods, cotton warps, plain and fancy, overcoatings, etc. Familiar with all machinery used in woolen mill. Will not go West, South or Canada. Good references. 3991 Textile World Record.

Superintendent or Assistant Superintendent in a large woolen mill. Position wanted by a man 52 years of age, married, English. Has worked on unions, satinets, cheviots, thibets, cloakings, overcoatings, dress goods, beavers and all kinds of woolen goods. Familiar with all kinds of woolen machinery. Good reference. 3776, Textile World Record, Boston.

Superintendent or Assistant of a woolen or worsted yarn mill. Worked on fancy and piece dye worsteds, men's wear, thibets and overcoatings. Has a good knowledge of blending stock, also a good knowledge of designing. Familiar with all makes of woolen and worsted machinery, American and foreign. 26 years of age, married. Good reference. 4593, Textile World Record, Boston, Mass.

KNITTING SUPERINTENDENTS.

Superintendent of Hosiery Mill; understands knitting and finishing all grades cotton seamless hosiery; familiar with Standard knitters, also ribbers, loopers, etc.; have had over 25 years of experience; excellent handler of help; good reference; at present employed; 50 years of age, married. 4140, Textile World Record, Boston, Mass.

Superintendent or assistant superintendent in hosiery mill; worked on all kinds of hosiery from 108 to 240 needle work; cotton, wool, worsted and lisle; Acme, Geo. D. Mayo, Invincible, Brinton, Root, Scott & Williams, and all makes of loopers; will not go to Maine, New Hampshire, Vermont or Canada; good reference; 27 years of age, married. 4134, Textile World Record, Boston, Mass.

Superintendent in an Underwear Mill. 35 years of age, married, American. Worked on all grades of men's, women's and children's ribbed underwear. First-class reference. Understands sewing machines. Will not go South or Canada. 3505, Textile World Record, Boston, Mass.

Superintendent of Underwear or hosiery mill. Position wanted by a man 49 years of age, married, American. Has worked on men's, women's and children's underwear in flat, ribbed and full fashioned; also hosiery in cotton, wool and merino. Familiar with all makes of knitting machines from picker to finishing. Good references. 3993 Textile World Record.

Superintendent of an underwear or hosiery mill, 31 years of age. Worked on ladies' shaped ribbed and men's and children's ribbed underwear. Also men's, women's and children's hosiery. Familiar with the Nye & Tredick, Stafford & Holt, Brinton, Scott & Williams, Union Special and Merrow machines. Good reference. 4534, Textile World Record, Boston, Mass.

Superintendent of Hosiery Mill or Boss Knitter of underwear or sweaters. Position wanted by a married man, 26 years of age, American. Has worked on all kinds of hosiery, except full fashioned. Also underwear, sweaters, toques, fancy leggings, gloves and mittens. Is familiar with all makes of seamless hosiery machines, Leighton and Lamb. Good reference. 3305, Textile World Record, Boston, Mass.

Superintendent or Overseer of knitting and finishing in a hosiery or underwear mill. Has worked on hosiery, cotton, wool and merino, infants' cassimere toques, sweaters, sweater coats, plain ribbed underwear and ladies' Swiss ribbed vests. Familiar with the Lamb, Syferth, Danner, Grasser, flat, M. S. W. & Fisher, Hepworth loopers and S. & W. 7/8 automatic, Union Special, button and buttonhole machines. Good reference. 42 years of age. 4641, Textile World Record, Boston, Mass.

Manager or Superintendent of a hosiery or underwear mill. Will be open for a position about March 1st. Understands the manufacture of seamless cutting hosiery, ladies', men's and children's underwear. Has had 20 years of experience in knitting mills and can refer any parties interested to manufacturers whom he has worked for. 4529, Textile World Record, Boston, Mass.

Superintendent or Overseer of full fashioned knitting. Familiar with full fashioned underwear and hosiery and experienced on Ludwig, Shubert, Selzer, Richter, Cotton, Boesneck, Textile Machine Works, Riddier, Blackburn, Attenbury's, Moses Mellor's Machinery. Prefers a position in the West. Good reference. 4584, Textile World Record, Boston, Mass.

Manager or Superintendent of a knitting mill. 40 years of age, American. Has worked on high grade underwear of all kinds. Is a practical mechanic. Understands the manufacturing in all branches. Familiar with all makes of latch needle and sewing machines, bleaching and dyeing. Good references. 4538, Textile World Record, Boston, Mass.

Assistant Superintendent or overseer of knitting in a hosiery mill. Worked on hosiery made from wool, shoddy and cotton mixes from 64 to 140 needle work. Familiar with Branson, Geo. D. Mayo, Hepworth loopers and Branson ribbers. 30 years of age, married. Good reference. 4631, Textile World Record, Boston, Mass.

SUPERINTENDENTS AND DESIGNERS.

Superintendent or Designer in a Woolen Mill. Worked on all classes of worsted goods. Familiar with all makes of machinery. Good reference. 50 years of age, married. 4673, Textile World Record, Boston, Mass.

Superintendent and Designer in a woolen mill. Position wanted by a man 31 years of age, Scotch-American. Is familiar with woolens, worsteds, thibets, cotton warps, dress goods, broad cloth, cotton worsteds, tourist cloth. All kinds of woolen machines. Will not go West. Good references. 3944, Textile World Record.

Superintendent, Designer or boss weaver. Position wanted by a man 39 years of age, married. Has worked on woolen and worsted. Would take a position anywhere. First class reference. 3925, Textile World Record, Boston.

Superintendent or Designer in a woolen mill. Position wanted by a man 47 years of age, married, American. Worked on all kinds of woolen and worsted goods. Familiar with all kinds of woolen machinery. Four workers in the family. 3977 Textile World Record.

Superintendent, Assistant Superintendent and Designer, or overseer of weaving and finishing. Position wanted by a man 33 years of age, American. Is experienced on ginghams, madras, shirtings, linings, lawns, silks and ducks. Is familiar with all kinds of cotton machinery. Good references. 3616, Textile World Record, Boston, Mass.

Assistant Superintendent or assistant designer in a worsted or woolen mill. Position wanted by a man 32 years of age, single, American. Has worked on fine worsted and woolens, worsted and wool overcoatings, low grade worsted and woolens, men's wear and dress goods. Familiar with American and English machinery. Good reference. 3839, Textile World Record, Boston, Mass.

Superintendent and Designer in a woolen or worsted mill. Worked on all kinds of men's and women's wear, worsted, wool, shoddy and cotton mixes and piece dyes. Familiar with all kinds of woolen machinery. 43 years of age, married. Good reference. 4610, Textile World Record, Boston, Mass.

Assistant Superintendent, or Assistant Designer in a large woolen mill, or Assistant Superintendent and Designer in a medium sized woolen mill. Position wanted by a man 38 years of age, American, single. Worked on tourists' coatings, shirtings, dress goods, broadcloths, kerseys, etc. Good references. 4034, Textile World Record, Boston.

DESIGNERS.

Designer, Assistant or superintendent; worked on woolens, cotton worsteds, raincloths, coverts, panamas, unions and very fine worsteds; familiar with all makes of machinery used in worsted mills, spoolers, winders, dressers, twisters and Crompton & Knowles looms; will not go South, Canada or west of Chicago; 44 years of age, married; good reference. 4144, Textile World Record, Boston, Mass.

Designer; worked on wool and worsted goods, overcoatings, piece dyes, cotton and worsted serges, resists and manipulated fabrics; will not go West, South or Canada; good reference; 34 years of age, married. 4128, Textile World Record, Boston, Mass.

Designer, Assistant Designer or overseer of weaving. Has worked on the best classes of tweeds, overcoatings, wool and worsteds. 39 years of age, married. Two workers in the family. Scotch. Good reference. 4625, Textile World Record, Boston, Mass.

Designer in a Cotton Mill. Position wanted by a man, 33 years of age, English; has worked on ladies' dress goods, shirtings, ginghams, lenos and jacquard patterns. Will not go west, south or Canada. Good reference. 3780, Textile World Record, Boston.

Designer. A married man, 26 years of age. Worked on woolens, cassimeres, worsteds and cotton worsteds. Would like an interview with any manufacturer in need of a first class man. Good reference. 4512, Textile World Record, Boston, Mass.

SUPERINTENDENTS.

Superintendent, Assistant or a position as boss weaver; worked on suspender, elastic and non-elastic webbing, name labels, webs, all narrow fabrics, also ginghams and lenos; familiar with Crompton & Knowles, Kilburn, Lincoln, Whitin, Draper, Mason, Schaum & Uhlinger looms; good reference; 40 years of age, married. 4129, Textile World Record, Boston, Mass.

Assistant Superintendent, assistant designer, pattern weaver, or salesman for textile machinery. Position wanted by a man 26 years of age, single. Has worked on woolens and worsteds. Is also a graduate of the Lowell Textile School, three years' course. Understands all kinds of machinery. Good reference. 4571, Textile World Record, Boston, Mass.

Superintendent of silk or cotton mill that manufactures worsted, silk plushes, terry stripes, light and heavy weight mohair pile figure upholstery plushes. Understands Jacquard and Clipper looms. Good reference. 49 years of age, married. 4668, Textile World Record, Boston, Mass.

Assistant Superintendent or overseer of carding in a large mill. Position wanted by a man 47 years of age, married. Worked on lawns, sateens, upholstery and fancy cotton goods of all kinds. Has had a wide experience as overseer of carding, and a number of years as superintendent. Will not go to New Jersey, West, South or Canada. Will take position within reasonable notice. Good references. 3967 Textile World Record.

Assistant Superintendent, or Boss Weaver in a Woolen Mill. Position wanted by a married man, 28 years of age. Worked on all kinds of woolen goods, including cassimeres, suitings, dress goods, kerseys, thibets, meltons. Understands the Crompton & Knowles looms, has had experience in the carding and spinning room. A graduate of the International Correspondence School. Good reference. 4043, Textile World Record, Boston.

Superintendent of a bleachery or print works or assistant superintendent. Position wanted by a man, 38 years of age, an American, married. Worked on all kinds of cotton piece goods. Familiar with all kinds of machinery used in handling these goods. Now employed. First class recommendations. 3724, Textile World Record, Boston, Mass.

Superintendency of Bleaching, dyeing and finishing wanted by a thoroughly practical man, textile chemist, at present employed. Has had wide experience on the finest muslins and organdies. Laces and embroideries a specialty. Fully understands aetying, fireproofing, carbonizing, singeing, dyeing, etc. A practical man and no experimenter. An expert bleacher and finisher. 3443, Textile World Record, Boston.

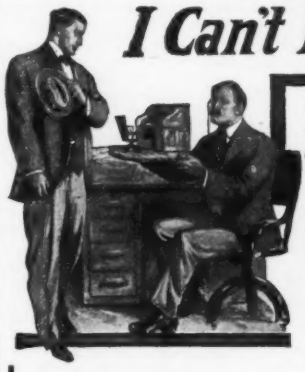
Superintendent. Would like position in South. Not particular about salary to start. Machinist and thoroughly acquainted with all kinds of card room machinery, also spinning frames. Taken superintendent course in textile school and has had 23 years of practical experience in the mill, mostly on fine yarn work. 3044, Textile World Record.

Superintendent of a Woolen Yarn Mill. Familiar with all kinds of yarn, wool, shoddy and cotton mixes. Good knowledge of buying stock and experienced in dyeing yarns in stock. 33 years of age, Scotch. Good reference. 4604, Textile World Record, Boston, Mass.

Superintendent Small Yarn Mill. American, 25 years of age; worked on carded yarns, 8s to 60s, American cotton, white goods only. Also on all makes American machinery. Would accept position as carder, weaver or designer, where there was a chance for advancement. 3392, Textile World Record, Boston.

Manager or Superintendent in small yarn mill, or overseer of mule or ring spinning in a large mill. Position wanted by a man 42 years of age, American, married. Worked on all kinds of cotton goods and yarns. Familiar with mule, ring frames, spoolers, twisters, etc. Will not go to Canada. First class references. 3907, Textile World Record, Boston, Mass.

Superintendent of a Worsted Yarn Mill. Position wanted by a man, 38 years of age, American, married. Worked on all kinds of yarns, Bradford system. Is recommended by leading mills. 3855, Textile World Record, Boston.



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IF a good position were offered *you* today, would you have "to turn it down" because you lack the necessary qualifications? Even if you accepted the position, could you hold it or would your lack of training compel you to step out in favor of a *better* trained man?

How can you expect a successful career unless you build it on a good foundation? ***Utilize your spare moments—study at home***—fit yourself ***properly*** to meet opportunity—then you will succeed. The American School of Corerspondence will tell you how if you'll clip the coupon and mail it ***to-day.***

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THE AMERICAN SCHOOL OF CORRESPONDENCE has given hundreds of Spinners, Weavers, Knitters, Dyers, Combers, Second Hands, Bleachers, Carders, Finishers, Fixers and Loom Fixers just the special training which they needed to qualify for lucrative positions Our courses in Complete Cotton, Complete Knitting, Textile Design, Textile Chemistry and Dyeing, Warp Preparation and Weaving, and Cotton Spinning are as complete and practical as they can be made. Besides giving the most comprehensive instruction in the usual work, we teach ***Woolen and Worst d Manufacturing. We talk to you by mail only—we employ no agents.***

The American School of Correspondence is the only correspondence school in the country which makes a ***specialty*** of engineering instruction. Its instructors are practical men—men who have had years of actual experience in their special fields. Consult these experienced men—get their advice—profit by their years of hard experience. Let them help you plan a ***paying*** career. ***Remember, sending the coupon places you under no obligations.***

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Please send your illustrated Textile Bulletin and advise me how I can qualify for the position marked X.

..Woolen & Worsted Supt.	..Boss Weaver
..Woolen & Worsted Desi'er	..Cotton Yarn Supt.
..Boss Cotton Spinner	..Cotton Designer
..Boss Dyer	..Boss Finisher
..U. S. Inspector	..Boss Cotton Carder
..Boss Woolen & Worsted Carder	..Knitting Mill Supt.
	..Cloth Examiner
..Boss Woolen & Worsted Spinner	..Boss Knitter
	..Buyer

Name.....

Address.....

Occupation.....

SPINNERS.

Overseer of Spinning; worked on all wool, wool, cotton and shoddy, all shoddy on men's wear and ladies' dress goods; can handle any kind of stock that is used in a woolen mill; familiar with Davis & Furber makes of machinery; will not go to New Jersey, West, South or Canada; 42 years of age, married; good reference. 4126, Textile World Record, Boston, Mass.

Overseer of Ring Spinning or second hand. Worked on sheetings, shirtings, warp and filling. Familiar with the Whitin, Fales & Jenks machines. 31 years of age, married. Wife is a spooler. Good reference. 4635, Textile World Record, Boston, Mass.

Overseer of Spinning in a cotton mill, or superintendent of a small yarn mill. Position wanted by a man 33 years of age, married, English. Worked on yarns from 40s to 150s. Familiar with all kinds of machines. Good references. 4016 Textile World Record.

Overseer of Spinning, spooling, warping and slashing. Position wanted by a man 45 years of age, American. Has worked on all kinds of cotton goods. Familiar with Fales & Jenks, Whitin, Mason & Saco machines. Will not go West, South or to New York. Good references. 3910, Textile World Record, Boston.

Overseer of Mule Spinning, or mule and ring spinning in a cotton mill. Worked on threads, warps, filling, hosiery yarns and counts from 6s to 180s, Egyptian and American cotton. Familiar with English and American mules. Wants a position in the North. Good reference. 40 years of age, married. 4624, Textile World Record, Boston, Mass.

Overseer of Ring Spinning. Worked on white goods and yarns from 8s to 70s warp and filling. Familiar with Whitin, Fales & Jenks, Mason, Howard & Bullough and Davis & Furber machines. 26 years of age, married. Good reference. 4628, Textile World Record, Boston, Mass.

Overseer of Woolen Spinning. Position wanted by a man 42 years, American. Worked on all kinds of stock, cotton, woolen, shoddy mixes. Has had 14 years' experience as overseer. Familiar with D. & F., G. & B. and Brotherheads. Could take position at once. Good references. 3879, Textile World Record.

Overseer or Mule or Ring Spinning. A married man, 45 years of age, English. Worked on all kinds of cotton goods and all numbers, both coarse and fine, also hosiery yarns. Familiar with all makes of English spinning machinery. Will not go South. Good reference. 4520, Textile World Record, Boston, Mass.

Overseer of Woolen Spinning. Position wanted by a married man 44 years of age. Worked on all kind of yarns on Platt mules, D. & F. J. & B. and Tatham machines. First class reference. Could take position at short notice. Will not go South, West or Canada. 4076, Textile World Record, Boston, Mass.

Overseer Woolen Spinning. Position wanted by a man 45 years of age, married, worked on woolen goods made of wool shoddy and cotton mixes; good references; take position at short notice. 4044. Textile World Record, Boston.

Overseer of Woolen Spinning. Position wanted by a man 40 years of age, widower, worked on all kinds of yarns, wool, cotton and shoddy mixed. Familiar with the J. & B. and D. & F. machines. First class recommendations. 3720, Textile World Record.

Overseer of Spinning or carder and spinner in a small woolen mill. Position wanted by a man 55 years of age, married, American. Has worked on all kinds of wool, shoddy and cotton mixes, yarns from 1/2 to 10 run. Familiar with D. & F., J. & B., Whitley, Smith & Molton mules. Good reference. Will not go South or Pennsylvania. 3933, Textile World Record.

Overseer of Ring Spinning, spooling, warping and twisting. Position wanted by a married man 28 years of age. Worked on suitings, checks, plaids, tickings, awnings, stripes and denims. Familiar with Whitin, Mason, Lowell, Fales & Jenks spinning frames, Draper spoolers and warpers, new Whitin spoolers and Fales & Jenks and Whitin twisters. Will not go to Penn. or Canada. Good reference. 4563, Textile World Record, Boston, Mass.

WEAVERS.

Overseer of Woolen or worsted weaving; worked on fancy woolens and worsteds; familiar with Crompton & Knowles and Crompton Thayer looms; 31 years of age, single; will not go West, South or Canada; good reference. 4142, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving; worked on plain sateens, crepe, fancy shirtings, Bedford cord, checks, lappettes, lenos and coarse and fine goods; familiar with all makes of looms; will not go West or South; good reference; 28 years of age, married. 4120, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving. 44 years of age, English, married. Worked on all kinds of cotton goods, plain and fancy. Familiar with American and English looms. Will go any place for a good position. Good reference. 4508 Textile World Record, Boston, Mass.

Overseer of Cotton Weaving. Has worked on plain sateens, fancy bedford cords, jacquard goods, lenos, cotton, silk and mercerized yarns, single and two ply. Familiar with all makes of cotton looms and also jacquards, single and double lift. Will not go West or South. 4503, Textile World Record, Boston, Mass.

Overseer of Weaving. Position wanted by a man, 40 years of age, married, an American. Worked on cheviots, ladies' dress goods, janes and woolen goods of all kinds. Familiar with the Crompton & Knowles looms. Good recommendations. 3725, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving. A married man, 32 years of age, American. Worked on plain and fancy sateens and jacquard effects. Also all kinds of cotton cloths, particularly fine goods and silks. Familiar with the Draper, Whitin, Colvin and jacquard looms. Good reference. 4516, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving. 47 years of age. Worked on ducks, lawns, stripes, plaids and all kinds of twilled cotton goods. Familiar with Draper, Lowell, Whitin, Crompton & Knowles looms. Will go any place for a good position. Good reference. 4510, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving. 39 years of age, married, American. Has worked on automobile tire fabrics, oils and sugar refining fabrics and all heavy duck goods and also plain goods. Familiar with the Crompton & Knowles, Lowell, Whitin and Draper looms. Will go any place for a good position. 4505, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving. 38 years of age, married. Worked on cotton dress goods, white and colored, lenos, ginghams, sateens, tickings, cottonades and cassimeres. Familiar with the Crompton & Knowles, Lowell, Kilburn, Mason, jacquard and English revolving box looms. Good reference. 4578, Textile World Record, Boston, Mass.

Overseer of Weaving in a woolen mill. Position wanted by a man 37 years of age, married, American. Worked on beavers, kerseys and worsteds. Familiar with Crompton & Knowles looms. Good references. Could accept a position at once. 4000 Textile World Record.

Promotion for Textile Workers

The most practical, surest, and quickest way in the world for ambitious textile workers to secure promotion is offered by an institution through whose assistance thousands of men have already advanced to better positions and larger salaries. They have done this in their own homes, in their spare time, and at an insignificant cost. We will cheerfully explain, free of charge, how we can adapt our plan to **YOUR** personal needs and income if you will write us today, stating the position you would like to secure.

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CARDERS.

Overseer of Carding or spinning or both; worked on all wool, cotton shoddy and mixes for weaving or knitting, 1 run to 8 run, also hose run for shoddy card rooms: familiar with D. & F., J. & B., Ray and Smith cards; Barker or D. & F. rubs, English mules; 36 years of age, married; good reference. 4136, Textile World Record, Boston, Mass.

Overseer of Carding; worked on all kinds of wool, cotton and shoddy; familiar with all kinds of machinery, D. & F., Cleveland, Lombard, Smith & Furbush and Gaintor; will not go to Maine, Canada, West or South; 42 years of age, married; good reference. 4138, Textile World Record, Boston, Mass.

Overseer of Woolen or worsted carding; worked on all grades of stock; wool, shoddy and cotton mixes; familiar with all makes of carding machinery. Will not go West, South, Canada or Pennsylvania; good reference; 36 years of age married. 4124, Textile World Record, Boston, Mass.

Overseer of Carding or spinning in a cotton yarn mill; worked on combed, Egyptian, Sea Island, peeler, Georgia and American cotton; all makes of carding and combing machinery; will not go South or Canada; good reference; 32 years of age, single. 4132, Textile World Record, Boston, Mass.

Overseer of Woolen Carding; worked on all classes of woolen goods made from wool, cotton and shoddy mixes, and all makes of American cards; 43 years of age, married; good reference. 4127, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. Position wanted by a man, 35 years of age, married, American. Worked on cotton, wool and shoddy mixes and is familiar with very low stock, all kinds of woolen cards, Barker condensers. Good reference. 3800, Textile World Record, Boston, Mass.

Overseer of Cotton Carding. Position wanted by a man, 33 years of age, American, married. Has worked on carded and combed hosiery yarn, colored yarns and warps. Familiar with American carding and combing machinery. Good references. 3864, Textile World Record, Boston.

Overseer of Woolen Carding. 48 years of age, married, American. Worked on all kinds of woolen, cotton and shoddy mixed goods. Exceptionally good man on low stock. Good reference. Has had 22 years of experience in the card room. 4530, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. Worked on all kinds of goods made from wool, shoddy and cotton mixes. Familiar with all makes of cards and Boulette condensers. Prefers a position in the New England or New York States. Good reference. 50 years of age, married. 4638, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. Position wanted by a man, 33 years of age, married, American. Worked on all kinds of cotton, shoddy and wool mixed goods. Familiar with all kinds of woolen carding machinery. Will not go west, south or Canada. Could take a position at short notice. Good reference. 3774, Textile World Record, Boston.

Overseer of Woolen Carding. Worked on all kinds of woolen goods made from wool, shoddy and cotton mixes. Familiar with D. & F., Smith & London cards. 39 years of age, married. Good reference. 4632, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. Position wanted by a man 56 years of age; married; American. Is experienced on all kinds of stock and is familiar with any make of carding machinery. Good references. 3608, Textile World Record, Boston, Mass.

Overseer of Carding and spinning. Position wanted by a man 40 years of age, married. Is experienced on all kinds of stock and all numbers of yarn. Is familiar with Davis & Furber, Johnson & Bassett, Furbush, and Bridesburgh carding and spinning machinery. Good references. 3580, Textile World Record, Boston, Mass.

Overseer of Carding in woolen or hosiery mill. Position wanted by a man 35 years of age, married, American. Worked on all classes of goods and all kinds of stock. Familiar with all kinds of American and English cards, and all kinds of condensers and feeds. Will not go West, South or Canada. Good references. 3988 Textile World Record.

FINISHERS

Overseer of Finishing Hosiery, or assistant superintendent; worked on all classes of hosiery, cotton, wool and worsted, seamless and fashioned; all makes of finishing machinery; understands finishing in all its branches; good reference; 40 years of age, married. 4131, Textile World Record Boston, Mass.

Overseer of Finishing; worked on face goods, kerseys, broad cloths, cassimeres, and all kinds of woolens and worsteds; familiar with all modern finishing machinery; will not go West, South or Canada; 42 years of age, married; good reference. 4139, Textile World Record, Boston, Mass.

Overseer of Finishing; worked on face finish; worsteds, woolens, dress goods, cotton mixes, cotton and shoddy; familiar with all makes of up-to-date machinery; will go anywhere for a good position; good reference; 45 years of age, widower. 4141, Textile World Record, Boston, Mass.

Overseer of Finishing, fulling or gigging; worked on face finished goods, meltons, kerseys, thibets, chinchillas, cheviots, serges, cassimeres, worsted casket cloths and cotton warp goods; all makes of machinery; good reference; 35 years of age, single. 4133, Textile World Record, Boston, Mass.

Overseer of Finishing of a small mill, second hand in a large mill, or overseer of burling and sewing. 27 years of age, married. Worked on fancy cassimeres, kerseys, meltons, thibets, beavers, broad cloths, dress goods and worsteds. Familiar with the different makes of finishing machines. Will not go to Penn., West, South or Canada. Good reference. 4579, Textile World Record, Boston, Mass.

Overseer of Finishing in a woolen mill. Position wanted by a man 28 years of age, American. Worked on all wool, wool and shoddy, cotton mixes, dress goods, kerseys, coverts, men's wear, etc. Familiar with all American makes of machinery. Will not go to New Jersey, Pennsylvania, West, South, or Canada. Good references. 3934 Textile World Record.

Overseer of Finishing or assistant to manager. Understands knitting and finishing, but would prefer finishing department. Worked on ladies' light weight vests. Familiar with the Union Special, Merrow, sewing machines; McMichael, Wildman, Scott & Williams and Nye & Tredick knitting machines. 22 years of age, single. Good reference. 4646, Textile World Record, Boston, Mass.

Overseer of Finishing in a cotton mill, shipping clerk or boss weaver. Worked on ducks, sheetings, shirtings, tickings, denims, cottonades, ginghams, bed spreads, etc. Familiar with all makes of finishing machinery, C. & K., Lowell and Draper looms. Good reference. 30 years of age, married. 4639, Textile World Record, Boston, Mass.

Overseer of Finishing. Position wanted by a man, 38 years of age, married, American. Has worked on kerseys, friezes, thibets and all kinds of woolen and worsted goods. Familiar with all kinds of machinery. First class reference. 3743, Textile World Record, Boston, Mass.

Overseer of Finishing, or second hand in a large mill. Married, 28 years of age. Worked on fancy and plain worsteds, woolens, thibets, cotton worsteds, broad cloths, dress goods and kerseys. Familiar with the different makes of machines. Will not go West, South or Penn. Good reference. 4574, Textile World Record, Boston, Mass.

Overseer of Finishing. Worked on all classes of woolen goods, broadcloths, cassimeres, dress goods, kerseys, beavers and worsteds. Familiar with all makes of finishing machinery. Will not go South or Canada. Good reference. 29 years of age, married. 4626, Textile World Record, Boston, Mass.

Overseer of Finishing or second hand in a worsted mill. Worked on fancy worsted piece dyes and dress goods. Familiar with all makes of finishing machinery. Good reference. 40 years of age, single. 4640, Textile World Record, Boston, Mass.

Overseer of Woolen Finishing. Position wanted by a man, 51 years of age, American, married. Has worked on all kinds of woolen goods and has had a wide experience on face finished goods. Is now employed in a large mill, but desires to make a change. Good references. 3861, Textile World Record, Boston, Mass.

DYERS.

Overseer of Dyeing; worked on cassimeres, cheviots, kerseys, broad cloths, meltons, worsteds in dress goods and men's wear; familiar with wood, alizarine, aniline, and union colors; indigoes on wool, cotton, shoddy, silk noils; has had a wide experience on piece dyeing, men's wear and worsteds; 50 years of age, married; good reference. 4135, Textile World Record, Boston, Mass.

Boss Dyer and Mercerizer in cotton, woolen, silk or hosiery mill. Position wanted by a man 40 years of age, married, American. Worked on wools, unions, silks, hosiery and cops. Familiar with various makes of machinery. Three workers in the family. Will not go West. Good references. 4004 Textile World Record.

Overseer of Dyeing in a cotton mill. Position wanted by a man 37 years of age, married, English. Worked on all standard color for ginghams, knit piece goods for underwear, skein yarns for the thread and shoe lace trade, also bleaching. Will not go West or South. Familiar with Scotch warp machines, Klauder Weldon dyeing machines, reel machine for dyeing knit piece goods. Good references. 4001 Textile World Record.

Overseer of Dyeing in a woolen mill. Position wanted by a man, 37 years of age, single, American. Has worked on piece dyes, raw stock, cotton, wool and shoddy, yarns, etc. Good reference. 3812, Textile World Record, Boston, Mass.

Overseer of Dyeing. Position wanted by a man 48 years of age, American, married. Has worked on raw stock, piece dyes, yarns and blue vats. Worked in some of the leading mills for a number of years. Could take a position at short notice. 3835, Textile World Record, Boston, Mass.

Overseer of Dyeing. Position wanted by a man, 37 years of age, Scotch, married. Has worked on sulphur blacks, indigo, alizarine, warps of fancy shades, raw stock, and skein yarns. Is familiar with Klauder & Weldon and Scotch tubs. Good references. Could take a position at short notice. 3842, Textile World Record, Boston.

DYERS.

Overseer of Dyeing; worked on wool, cotton and union goods in all its branches; familiar with all makes of machinery; 32 years of age, married; will go anywhere for a good position; good reference. 4146, Textile World Record, Boston, Mass.

Second Hand in dye house. Position wanted by a young man 22 years of age. Graduate in chemistry and dyeing in textile school. Has had four years' experience in mills, two as second hand, two as overseer of dyeing. Worked on men's, ladies' worsted piece dyes, stock and worsted and cotton yarns. Good reference. 4546, Textile World Record, Boston, Mass.

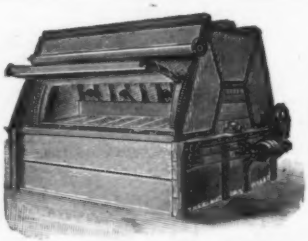
Overseer of Dyeing or Second Hand. American; 25 years of age; worked on woolen piece dyes and raw stock and on different kinds of machinery used in dyeing. Would accept a position anywhere that would mean advancement. 3418, Textile World Record, Boston.

Overseer of Dyeing. 34 years of age, single. Has worked on serges, wool and worsted, thibets, cheviots, kerseys, cotton and wool raw stock, and cotton and worsted yarns. Is familiar with all makes of dyeing machinery. Good reference. Will not go West, South or Canada. 4519, Textile World Record, Boston, Mass.

Overseer of Dyeing. Worked on worsted yarns, piece dyes, raw stock and slubbing. Will not go West or South. Good reference. 41 years of age, married. 4630, Textile World Record, Boston, Mass.

Overseer of Dyeing or assistant superintendent of a woolen mill. Worked on dress goods, union cassimeres, thibets, overcoats, suitings, piece dyes, raw stock, cross dyes, fancy shoddies, a specialty. Prefers a position in the N. E. States. Good reference. 27 years of age, married. 4657, Textile World Record, Boston, Mass.

Overseer of Dyeing. Worked on piece dyes, wool, worsted and cotton yarns, wool, cotton raw stock. 35 years of age, married. Good reference. 4661, Textile World Record, Boston, Mass.



RAW WOOL AND COTTON MACHINE.

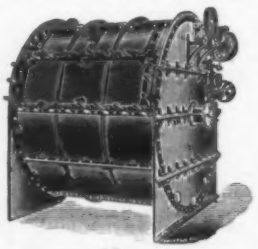
MACHINES
sold on
2 MONTHS' TRIAL
YOU
TAKE
NO
RISK

SKEIN AND SLUBBING MACHINE.

THE KLAUDER-WELDON DYEING MACHINE COMPANY

P. O. Box K, AMSTERDAM, N. Y.

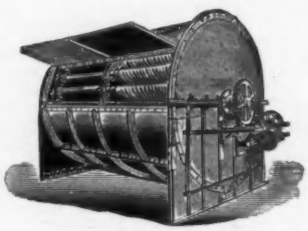
Machines for Dyeing, Bleaching and Scouring Woolen, Worsted, Cotton and Silk Skeins—Slubbing—Raw Cotton and Wool, Waste, Rags, Shoddy, Hosiery, Underwear, Hats, Caps, Knit Cloth, Tapes, etc.



SULPHUR HOSIERY MACHINE.

Special Machines for Sulphur Colors

WILL EARN THEIR COST IN
LABOR ALONE
IN FROM
6 TO 12 MONTHS
ACCORDING TO CAPACITY



SULPHUR SKEIN MACHINE.

MISCELLANEOUS.

Competent Cost Accountant. Position wanted by a young man at present with firm of business economists. Desires an executive connection with large manufacturing concern who are in need of a thoroughly wide awake man with executive ability and wide experience in textile and other lines and one who will guarantee to lower the cost of production in a large measure. Good reference. 4558, Textile World Record, Boston, Mass.

Color Mixer or Dyer. 53 years of age. Has worked on carpet yarns mostly, also plushes, fur hats, etc. First class recommendations from leading mills where last employed. Could take a position at short notice. 4531, Textile World Record, Boston, Mass.

Overseer of Spooling, warping, twisting, winding and dressing in a cotton mill. Position wanted by a man, 27 years of age, single, American. Has worked on all kinds of yarns, from 10s to 20s, white and colored. Familiar with all kinds of machines used in this department. Will go any place for a good position. Good reference. 3811, Textile World Record, Boston, Mass.

Overseer of Cotton or Woolen Dressing. 47 years of age, married, American. Worked on all classes of woolen and cotton goods, both plain and fancy. Familiar with all makes of machines used in dressing departments in either a cotton or woolen mill. Good reference. 4509 Textile World Record, Boston, Mass.

Second Hand in woolen card room. Married man, 32 years of age. Worked on all kinds of stock, cotton wool and shoddy mixes. Good reference from leading mills. Could take a position at once. 4532, Textile World Record, Boston, Mass.

Overseer of Beaming, slashing, spooling, long chain quilling and warping. Worked on fancy shirtings, silk and cotton coat linings, ginghams, awnings, tickings and denims. Familiar with the Lowell, Phillip, Howard & Bullough, Draper and Entwistle machines. Two workers in the family. 40 years of age, married. Good reference. 4617, Textile World Record, Boston, Mass.

Master Mechanic or Chief Engineer. Married man, 40 years of age. Understands all makes of machinery used in a cotton or rolling mill. Understands electricity, steam engines and would go any place for a good position. Good reference. 4506, Textile World Record, Boston, Mass.

Overseer of Back Filling or starching. Position wanted by a man, 38 years of age, married, American. Has worked on all kinds of cotton goods and understands all kinds of starching machinery. At present employed, but could accept a position at short notice. Will not go South without good inducements are offered. Good reference. 3932, Textile World Record.

Master Mechanic for Cotton or woolen mill. Familiar with steam and electric power and all machinery connected with either of the above. Good reference. 31 years of age, married. 4633, Textile World Record, Boston, Mass.

Fixer in a Hosiery Mill. Worked on Mayo, Acme, Wildman ribbers and loopers and ladies', gents' and infants' cotton, merino and worsted hosiery. 22 years of age, single. Good reference. 4653, Textile World Record, Boston, Mass.

Second Hand in the dye house or finished percher. Worked on beavers, kerseys, broadcloths, thibets, flannels, cotton mixes, cheviots and cassimeres. Would prefer a position in the N. E States. 25 years of age. Good reference. 4648, Textile World Record, Boston, Mass.

Second Hand in woolen or worsted finishing room, overseer of burling, and sewing or finished percher. Worked on fancy and plain worsteds, woolens, cotton worsteds, broadcloths, kerseys, beavers, meltons and dress goods. Understands most all makes of finishing machinery. 33 years of age, married. Good reference. 4665, Textile World Record, Boston, Mass.

Overseer of Spooling, twisting and winding in a thread or linen mill. Familiar with all makes of winding and spooling machines. Good reference. 30 years of age, single. 4667, Textile World Record, Boston, Mass.

Clerk or Confidential Clerk to superintendent of a woolen or worsted mill. Has been employed in leading mills in Massachusetts. Good reference. 39 years of age, married. 4651, Textile World Record, Boston, Mass.

MISCELLANEOUS

Chief Engineer and electrician, or master mechanic where stress is laid on a thorough knowledge of the power plant; familiar with engines, boilers, water wheels, electrical machinery, etc; 40 years of age, married; good reference. 4143, Textile World Record, Boston, Mass.

Second Hand in the combing department in a worsted mill; worked on coarse and fine wools; familiar with English, Crompton and Noble combs; 40 years of age, married; good reference; two workers in the family. 4123, Textile World Record, Boston, Mass.

Overseer of Warping and spooling in a worsted or woolen mill; worked on fancy worsteds, men's wear, dress goods, woolen cassimeres, beavers, doeskin, broad cloths and fancy dress goods; familiar with various makes of warping and spooling machinery; 48 years of age, married; good reference. 4147, Textile World Record, Boston, Mass.

Second Hand of Woolen Weaving or loom fixing; Worked on woolens, worsteds, suitings, blankets and flannels; familiar with Crompton & Knowles and Gilbert looms; good reference; 27 years of age, single. 4121, Textile World Record, Boston, Mass.

Chief Engineer, master mechanic or superintendent. Married man, 31 years of age. Familiar with machinery of all kinds and purposes, mostly for power. Hydraulic, electrical, direct, alternating current, high speed, engine, condensing, high pressure and elevators. Prefers New England. Good reference. 4561, Textile World Record, Boston, Mass.

Overseer of Drawing and Spinning in a worsted mill. Worked on alpaca, long and short wools. Familiar with all makes of drawing and spinning machinery. Will not go South. 38 years of age, married. Good reference. 4614, Textile World Record, Boston, Mass.

Loom Fixer. Position wanted by a man 29 years of age, single, Swede. Has worked on all kinds of woolen goods, and is familiar with Knowles looms. First-class references. 3648, Textile World Record, Boston, Mass.

Overseer of Spooling, Warping and Slashing in cotton mill. Position wanted by a man 35 years of age, married. Has worked on both white and colored cotton yarns from 8 1/2s to 120s, single and ply yarns, also silk. Familiar with Whitin, Draper, Howard & Bullough, Cohoes and Entwistle machines. One weaver in the family. Will not go West, South, Canada, Vermont or Pennsylvania. Good references. Can be employed at one week's notice. 3980 Textile World Record.

Cloth Overseer or second hand in dress room. Englishman, 27 years of age, with experience on all classes cotton goods and the different kinds of machinery used in this work, is seeking position. Good references. 3380, Textile World Record, Boston.

Overseer of Dressing, Spooling and Twisting. Position wanted by married man, 38 years of age, worked on all kinds of woolen goods, worsteds, dress goods. Good reference. 4042, Textile World Record, Boston.

Second Hand in Dye House. Worked on all classes of wool and worsteds. Is a graduate of chemistry. Would like to get a position where the overseer would give him a chance to show what he is worth. Good reference. 27 years of age. 4649, Textile World Record, Boston, Mass.

Master Mechanic, engineer or machinist. Married man 36 years of age. Has worked on cotton and woolen machinery and familiar with various makes of machinery. Has had a wide experience as machinist and engineer with good reference. 4565, Textile World Record, Boston, Mass.

Second Hand in a Woolen Spinning Room. Position wanted by a young man 30 years of age, single, has had a number of years' experience as spinner and has been allowed to fix his own machines. Would like to get a position as second hand where he could learn to fix mules under a good man. He is familiar with D. & F. or J. & B. machines, and wants a position in the West or Middle West. 3707, Textile World Record.

Master Mechanic. 37 years of age, single. Has had experience in cotton mills, bleach and dye works. Understands all kinds of machinery used in the above mills. Understands all kinds of engines and electrical plants. Good reference. 4093, Textile World Record, Boston, Mass.

Meeting a Demand.

Up to within a very recent date the materials most generally employed for the scouring of wool were of an injurious and caustic nature.

But

Every Mill Man who is pushing for business realizes a mighty change is brewing.

He realizes if he is to hold his trade his mill must turn out a product which possesses some feature or property peculiar to itself, because of which it is to be preferred to all others.

None Genuine except with card bearing this Trade Mark

In Every Package.

To accomplish such improvement, a change in present methods must be made.

WYANDOTTE TEXTILE SODA

is the product that will start the improvement. It has done it for others and will do the same for you.
Just try it.

The J. B. Ford Co., Wyandotte, Mich.

Sole Manufacturers

THIS SODA HAS BEEN AWARDED THE HIGHEST PRIZE WHEREVER EXHIBITED.

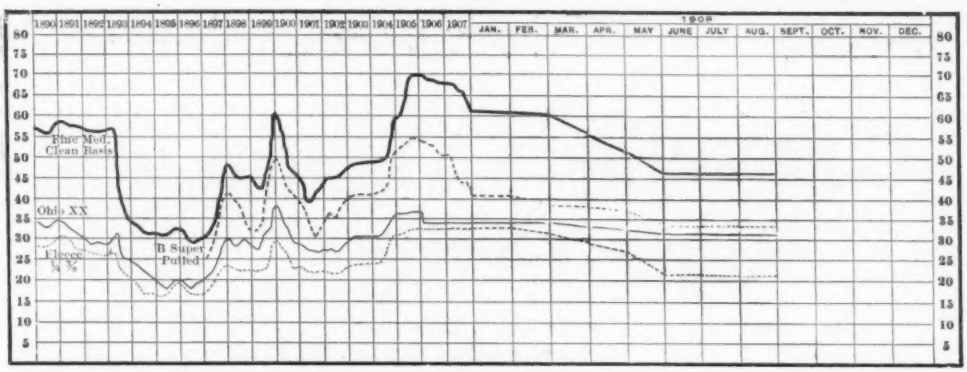


CHART SHOWING RANGES IN THE PRICE OF WOOL TO DATE.

The Wool Market.

Wool has been moved in only moderate volume since our last report, as manufacturers find nothing in the market for goods to warrant their filling their warehouses with raw material. Prices have remained stationary and spasmodic activity has resulted from the purchases by certain spinners of grades that they feel reasonably sure will be required for staple lines of goods. As the presidential campaign progresses the caution of buyers is likely to increase, so that there is nothing to warrant the prediction of an early revival of trading in wool. The return of one lot of wool to Europe indicates plainly the situation here, as the owner found it more profitable to pay the return freight and sell abroad than to pay the duty and sell here.

Although adverse conditions undoubtedly exist there is a reserve strength in the market due to the comparatively small supply of domestic wool. As soon as the political situation becomes settled the demand for goods will have an immediate effect on the market for raw material. The country is not going to the dogs. The protectionists will continue in control and in that event the tariff will be settled quickly and right, without serious disturbance to business.

Pennsylvania, Lenni Mills. The Yorkshire Worsted Mills have been sold to Miller & Pleet, who have been operating the plant for a number of years. The transaction involves the transfer of the buildings with water rights, 20 acres of land and 25 dwelling houses, now occupied by employes of the mills. Miller & Pleet also operate a plant in Philadelphia.

Pennsylvania, Norristown. The Wilcomb Machine Company, builders of knitting machinery, at Washington St. and Franklin Ave., have contracted for the erection of a new factory building, two stories and basement, of brick, 40 by 80 ft. The ground has been broken for the operation and the contract calls for the erection of the building within 90 days. The plant will be equipped throughout with new machinery, which will be operated by electricity.

Pennsylvania, Philadelphia. A charter has just been issued to the Empire Silk Co. of New York, with a capital of $1,600,000.

Pennsylvania, Philadelphia. Franz Merz, proprietor of the Germania Worsted Mills, Indiana Ave. and A Sts., has taken title from the trustees in Bankruptcy of the defunct Dunlap Carpet Co., to the building at the above address in which he has been a tenant for several years, for a consideration of $130,000. The buildings consist of a five story mill and a large boiler house on a lot 140 by 500 feet. The assessed valuation is $85,000. The Germania Worsted Mills, of which Otto Stoeckel is the superintendent, operate 150 looms on dress goods which are sold direct through their New York office.

Pennsylvania, York. The Diamond Silk Mill and York Silk Mfg. Co. have resumed working on a 60-hour basis and additional machinery will be started up, giving employment to a number of people who have been idle for weeks.

Pennsylvania, Philadelphia. The Unity Woolen & Worsted Co., located in the Lomax Mills, Jasper and Orleans Sts., are to be known in the future as the Unity Worsted Co., having applied for a charter under that name, with Norman Kennedy and Frank B. Colton as the incorporators. The capital of the new corporation will be $100,000. The Unity Woolen & Worsted Co., which is owned and operated by an English company, is manufacturing plain and fancy woolens and worsteds on 80 broad looms which they sell through New York.

*Pennsylvania, York. The stockholders of the York Silk Mfg. Co. have petitioned the court to remove the receivers and voted a bond issue of $750,000 for the purpose of resuming operations in full. Reorganization was effected with the election of the following directors: Alexander D. Walker, Scott McLaren, John C. Dawson, A. B. Farquhar and M. G. Collins.

Plymouth Rope Drives

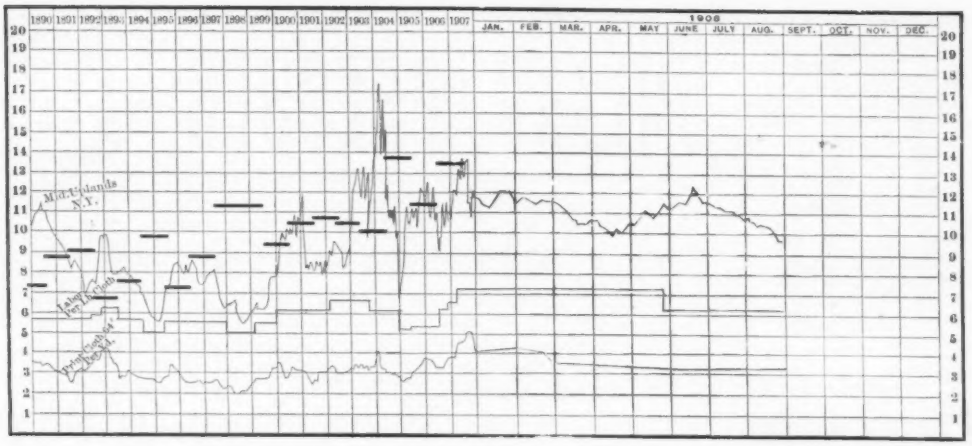
meet textile needs

Some of the reasons why

1. Safety.
2. Quietness.
3. Absence of slip.
4. Great durability.
5. Ease of extension.
6. Steadiness of speed.
7. Economy in operation.
8. Small amount of room required.
9. Freedom from electrical disturbances.
10. Wide adaptability under difficult conditions.
11. Cost less to install and less to maintain.
12. Transmit power any distance, in any direction.

Every transmission problem that comes before us has the attention of men who have made it their business for years to advise regarding transmission systems—they are transmission specialists and they know what system will successfully meet the peculiar condition at *your* plant. Their "know how" costs *you* nothing. Write for "Rope Driving."

Plymouth Cordage Co., No. Plymouth, Mass.


1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907
1908
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
Mid. Uplands N.Y.
Mid. Uplands New Orleans
Prompt and Next Delivery

The short, heavy, horizontal lines indicate the size of the cotton crops in millions of bales.

CHART SHOWING RANGE IN THE PRICE OF COTTON TO DATE.

The Cotton Market.

This market has been dominated by the wildest of speculation during which the factors affecting supply or demand have been disregarded when opposed to the market plans of the manipulators, or exaggerated when they happened to favor those plans. Weather conditions have in the main been favorable to the crop, although damage is reported from floods. The rains were greatly needed and have removed the danger of a drought. The situation in the goods market has depressed the raw material. The proposed reduction of wages in Lancashire and continued depression of trade both here and abroad have frightened owners of cotton and led buyers to purchase sparingly. The movement into sight from Sept. 1 to Aug. 28 is reported by the "Chronicle" as follows:

1907-08	11,553,886 bales.
1906-07	13,537,278 bales.
1905-06	11,280,959 bales.
1904-05	13,701,756 bales.
1903-04	10,259,022 bales.
1902-03	10,759,309 bales.

The same authority estimates the world's visible stock of cotton on Aug. 28 at 71,713,541 bales, as compared with 72,323,844 bales in 1907, 1,779,526 bales in 1906, and 72,545,470 bales in 1905.

Pennsylvania, Royersford. The McKibben Hosiery Co. has been incorporated with a capital of $5,000. This concern has been doing a business of buying and selling hosiery for the past two or three years, and it cannot be ascertained at this time whether they are about to install machinery for the manufacture of hosiery or not.

Pennsylvania, Scranton. Articles of incorporation have been filed by the Gloor & Strubi Embroidery Co., which will do business at this place. The capital stock is given as $40,000.

Rhode Island, Woonsocket. The plant of the Woonsocket Machine & Press Co. started up on full time on Monday morning. There are many orders ahead and the prospect is that the full schedule will be maintained indefinitely. This concern has been running five days a week since April.

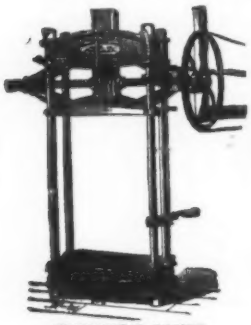
*Rhode Island, Alton. Frequent shipments of goods are made from the Richmond Lace Works, formerly the Alton Mfg. Co. The three lace machines are operated full time and there seems to be no difficulty in finding a market for the product. Samuel Griffiths has charge of the mill and William Jones is overseer of bleaching.

Rhode Island, Pawtucket. Articles of incorporation have been filed with the Secretary of State for the Warburton Thread Co. John J. Hanley of Providence, Franklin E. Warburton and John W. Devoe of Pawtucket, are the incorporators. Capital stock is $50,000. The object of the company, it is stated, is to manufacture and sell silk, cotton, lining and woolen goods, threads and yarns.

WEIMAR BROS. MANUFACTURERS OF Cotton Mercerized Tapes,

SPOOL TAPES, BINDINGS AND NARROW FABRICS FOR UNDERWEAR AND OTHER TRADES.

Phone Connections. Works, 2046-48 Amber Street, PHILADELPHIA, PA.



KNUCKLE JOINT.

BOOMER & BOSCHERT

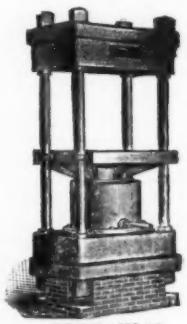
BALING PRESSES

ARE THE STANDARD

Hydraulic or Knuckle Joint
Any Size .. Any Power

Boomer & Boschert Press Co.

338 West Water S., SYRACUSE, N. Y.
Southern Agent, A. H. WASHBURN, Charlotte, N. C.



HYDRAULIC.

Get Your Supplies from the Manufacturers.

EXCELSIOR WOOL OIL COMPOUND AND COTTON SOFTENER

Established 1841

Burckhardt & Co.

Cincinnati, O.

The Excelsior Compounds are the best lubricating and softening products for wool, cotton, wool and cotton mixed. Eliminates the scouring process and effects large saving in time and soap. They will not gum in the cards.
Write for prices and particulars.

OLIVE OIL TALLOW SOAP

LARD OIL

Handles heavy cases in a Time-Saving Way—The Economy Steel Tiering Machine

Goods are put in place with ease and economy. The largest amount of stock can be stored in the smallest possible space and yet be instantly accessible. In use in representative mills. Investigate its merits and 'twill be in use in yours. Write for prices.

Economy Engineering Co. 58-64 N. Jefferson St. Chicago, Ill.

Your Safety Depends on the Efficiency and Strength of Your Valve.
BETTER BE SAFE THAN SORRY.

Water-Relief Valve

BUY CROSBY STEAM APPLIANCES WHICH ARE RELIABLE

WRITE FOR CATALOGUE.
Steam Engine Indicators
Recording Gages
Blow Off Valves
Brandon Rubber Pump Valves
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Feed Water Regulators
Lubricators
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ENGINE-BOILER AND MILL SUPPLIES

Pop Safety Valve

CROSBY STEAM GAGE AND VALVE CO.

Stores, BOSTON, NEW YORK, CHICAGO, LONDON.
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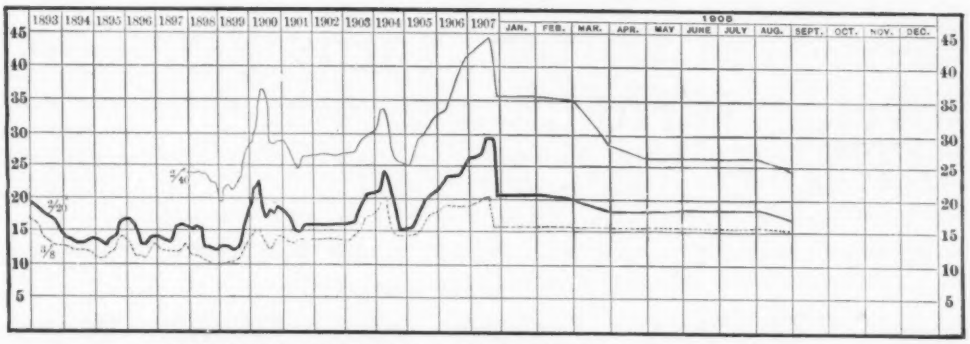
Yarn Department.



GRAPHIC CHART SHOWING RANGE IN THE PRICE OF COTTON YARN TO DATE.

The Cotton Yarn Market.

This market has been working to a lower level steadily for the past two weeks. Yarn buyers have been deferring purchases expecting a break in the cotton market. While there has been only a slight break in cotton prices, and the staple is still commanding a high price, the yarn market has anticipated a drop in cotton and yarns have been offered recently on a basis of 8 or 9 cent cotton. In other words, yarn has been selling below cost to spinners. There have been some fair sized orders placed for fall delivery, but there is no activity in the spot demand for yarn. Stocks do not seem to have been reduced. Manufacturers have not been receiving orders for fall delivery in any volume. Things will have to improve considerably with manufacturers before there will be any decided improvement in the yarn market. Prices today are about as follows:

Eastern Cops.

6s	17¾
8s	18¼
10s	18¼
14s	19¼
16s	19¾
18s	20¼
20s	20¾
22s	21¼
24s	21¾
26s	22¼
30s	22¾
34s	23¼
36s	23¾
40s	24¼

On cones, ¾c. more up to 14s; 1c. more from 15s to 22s; 1 1½c. from 23s to 35s, and 2c. above that.

Eastern Two-Ply Skeins, Carded Peeler.

12s	20
14s	20½
18s	22
20s	23
24s	23½
26s	24
30s	25
36s	28
40s	29
45s	33
50s	36
55s	39
60s	44

Eastern Two-Ply Warps, Carded Peeler.

2/30s	25
2/36s	28
2/40s	29
2/45s	33
2/50s	36
2/60s	44

Egyptian Weaving Yarns.
Single Skeins Combed.

30s	35
36s	37
40s	38
45s	40
50s	45
55s	48
60s	52
70s	57

The Philadelphia Market.

7s and coarser	16
8s and 9s	16-16½
10s	17
12s	17½
14s	18
16s	18
18s	18½
20s	19

THE J. R. MONTGOMERY CO.,

Windsor Locks, Conn.

MANUFACTURERS OF

Mercerized Cotton Yarns Gives the High Silk-Like Lustre in Knit Goods and Woven Fabrics.

Novelty Yarns Boucle, Bourette and Spirals, in Cotton, Wool, Worsted, Mohair and Silk.

Cotton Warps on Beams, Jack Spools and Tubes. In Fancy, Twist, Colors and Printed.

GREENE & DANIELS MFG. CO.,

COMBED, CARDED AND GASSED

Yarns, Threads, Twines and Chain Warps.

DYE SULPHUR BLACKS DIRECT IN COPS, CONES OR TUBES.

Colored and Bleached Yarns Furnished in any manner desired by the trade.

Pawtucket, R. I.

MONUMENT MILLS,

Manufacturers of
White, Colored, Fancy
and Double Twist

COTTON WARPS

HOUSATONIC, MASS. 4s to 60s.

M. J. TOOHEY & CO., OF FALL RIVER, MASS.

Banding made from Egyptian or White Cotton Yarn as Desired.

The Other Fellows Banding.

The Merwin Paper Company

Hartford, Conn.

Press Papers and Fender Boards

Correspondence Solicited

Mills at Rainbow, Conn. Address Inquiries to Rainbow, Conn.

22s	19½
24s	20
26s	20½
30s	21
40s	26
50s	34

Southern high grade mule yarn:—

Cones.

10s	19
12s	19½
14s	20
16s	20¾
18s	21¼
20s and 22s	21½-22
24s	22½

Southern frame yarn, lower grades:—

6s and 8s	16
10s	16

Eastern cones (high grade quality):—

10s	20
12s	20½
14s	21
16s	21¾
18s	22¼
20s and 22s	22¾-23¼

Skein yarn (mostly Southern):—

4s and 8s soft	15½
10s and 12s	16
14s to 20s	16½-17
22s	18
10/2	15½
16/2	16
20/2	17½
30/2	19½
40/2	24
16/3 slack	17½
12/3 slack	17
7/6 skein	15½
8/3 carpet	15
8/3 slack	15½
9/4 slack	15½

Warps (Southern):—

10s to 12s	16
14s	16½
16s	17
20s to 22s	17½-18
26s	19½
14/2	17
16/2	17½
20/2	18
24/2	19
30/2	20
40/2	26

Mixed colored yarns (mock twist, half colors):—

6s to 10s	18-18½
12s to 14s	19-20
16s to 18s	20½-22

Mock Egyptian, 2c. advance over white.

Egyptian, 5 to 6c. above the best quality white.

JAMES E. MITCHELL CO., COMMISSION MERCHANTS.
Cotton Yarns
AND COTTON CLOTHS.
122-124 Chestnut Street, PHILADELPHIA, PA.
73 Leonard Street, NEW YORK.
Brown Building, 185 Summer Street, BOSTON, MASS.
25 South Tryon Street, CHARLOTTE, N. C.

CATLIN & CO.,
Cotton Yarns.
345 Broadway, NEW YORK.
67 Chauncy Street, BOSTON.
128-130 Chestnut Street, PHILADELPHIA.
605 Medinah Temple, CHICAGO.

Harding, Whitman & Co.,
Dry Goods Commission Merchants,
COTTON AND WORSTED YARNS.
BOSTON. NEW YORK. PHILA.
CHICAGO. BALTIMORE. ST. LOUIS.

A. D. Salkeld & Bro.
COMMISSION MERCHANTS
DEP'T. FRED'K VIETOR & ACHELIS
COTTON YARNS
66-72 LEONARD STREET - - NEW YORK

Fred Sternberg & Co.
530 Broadway, - NEW YORK.
MERCERIZED TURKEY RED GASSED } COTTON YARNS.

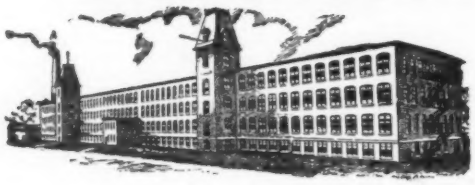
LUDWIG LITTAUER,
SUCCESSOR TO
MOELLER & LITTAUER, 109 Greene St., New York
SILK, WORSTED, WOOLEN YARNS COTTON AND MOHAIR
Polished Threads and Tinsel. Artificial or Wood Silk.
Mercerized, Turkey Red, Fine Gassed Yarns.
SILK MILL, BOONVILLE, N. Y.

High Grade Hosiery Yarn
White and Colors. All Numbers. Sewing Twines on Cones and Tubes
SPECIALTIES IN WEAVING YARN
Black and White. Double and Twist for Woolen Trade.
CANNON MILLS 53-5 Worth Street, New York
Philadelphia Office, 205-7 Chestnut St.

C. MOORE & CO.,
Manufacturers of
TWINES, THREADS AND YARNS
Jacquard Harness Twines of all kinds
on hand and made to order.
S. W. Cor. Fifth and Market Sts., Phila.

G. T. Crocker, Pres. W. F. Stiles, Treas.

ORSWELL MILLS



Fitchburg, Mass.

Capacity, 45,000 Spindles.

HIGH GRADE YARNS

From Egyptian and Peeler Cottons, Carded or Combed, in Chains and Skeins, on Balls, Beams, Spools, Cops, Cones, Tubes, Single or Twisted.

Cotton Yarns

Jenckes Spinning Company
Pawtucket, R. I.

Carded and Combed single and twisted Yarns and Threads from Peeler, Sea Island and Egyptian Cottons, on Cops, Cones and Tubes or in Skeins and Warps. Six Cord Thread Yarns a Specialty **Bleached or in colors**

GRANT YARN CO.,
COMBED AND CARDED COTTON.
YARNS 40's and above. AND
FITCHBURG, MASS. **WARPS**

F. W. MAURER & SONS CO.
MANUFACTURERS OF
TAPES, BINDINGS, NARROW FABRICS AND EDGINGS FOR NOVELTY CURTAINS
Office, 528 Cherry St. Factories, 529 & 531 Arch St. and 524 Cherry St., and Germantown Ave. & Bristol St.
PHILADELPHIA

Century Cotton Mills

Manufacturers of
Hosiery Yarns
Nos. 10s to 30s Sell Direct
South Boston - - - Virginia

MARYLAND WOOL AND COTTON EXCHANCE
906-908 Streeper St., Baltimore, Md.

High Grade Hosiery and Weaving Yarns all colors.

Operating Well Equipped Bleachery, Dyehouse, Spool, Cone and Twist Mill.

Beacon Narrow Fabric Co.

Braids & Tapes

Notre Dame St. FALL RIVER, MASS.

Testing of Yarns.

Count-Twist-Strength-Moisture-Chemical Test
When in doubt apply to
NEW YORK SILK CONDITIONING WORKS
138-140-142 Spring St., New York

Ballou Yarn Co.

PROVIDENCE. R. I.
Harness and Seine Twines and other Job Gassing, Winding, etc. All Numbers
GASSED YARN SPECIALTIES

C. M. BLAISDELL, Pres. and Treas. G. A. BLAISDELL, Vice-Pres. and Sec'y.
Established 1860—Incorporated 1893.
THE S. BLAISDELL, JR., CO.,
COTTON, EGYPTIAN PERUVIAN
American Long Staple a Specialty. Shipments direct to mill from Egypt, Peru and all American Southern Points.
CHICOPEE, MASS.
Cotton Waste Purchased on Yearly Contract from Mills.

Reels for Cotton WOOLEN AND WORSTED

Patented Hosiery Winders, Cop Winders and Spoolers.
LINDSAY, HYDE & CO.,
2124 to 2130 East York St., PHILADELPHIA, PA.

EDDY & STREET,
Cotton, Woolen
Yarns and Braids
Worsted, Spun Silk.
PROVIDENCE, R. I.

The Woolen and Worsted Yarn Market.

The manufacturers of both Bradford and French spun yarns report that they are running their machinery, but with little ahead in the way of new business. The manufacturers of both men's and women's wear seem to be placing their orders on a hand to mouth basis claiming that they have not received enough business to warrant placing large orders for yarn. There does not seem to be the buoyancy about the trade that they would like. Prices remain the same as heretofore, spinners claiming that business at this time does not warrant an increase. In spite of this fact, however, it is reported from all quarters that owing to the advancing prices of almost all grades of wool there is no doubt that the price of yarn will have to be raised to enable the spinners to work on a profitable basis.

The men's wear market has not seen such exceptional values for years; everyone seems to be hungry for business and mills have gone clear down to rock bottom and are offering goods at prices that have obliged the buyers to sit up and take notice. Shades seem to offer the all absorbing problem just now. The manufacturers have produced innumerable shades and colors, many of which have been borrowed from dress goods. Mercerized worsteds are not in favor, the clothier being able to buy all the worsted cloths he wants for within ten cents a yard of the price asked for mercerized goods. The resists have come into prominence. Nearly every mill has a line to offer. Everybody is exposing to weather and sun tests, on the roof under glass, samples of all shades offered. The clothier is buying shades that he knows will not give satisfaction regardless of what price agreement he buys them on, it being impossible to get the delicate shades in fast colors.

Rain cloths are dead, there being practically no call for them whatever. Here and there some small orders are being placed, but the volume of

Rhoads Leather Belting

Tannate Cone Belts are heavy, very pliable and tough, and give remarkable results.

Try one; we think you will find it the best ever.

J. E. Rhoads & Sons,

Philadelphia, 12 N. Third St.
New York, 40 Fulton St.

Factory and Tannery, Wilmington, Del.

LINEN YARN IMPORTER.

HUGHES FAWCETT, 115 Franklin Street, NEW YORK.

Flax, Hemp and Jute Line and Tow Yarns,
For Weaving Purposes.
Linen Jacquard Harness Twines,
Fine Cotton Harness and Heddle Twines,
For Cotton, Silk, Woolen and Carpet Manufacturers.
Correspondence solicited. Samples promptly furnished.

DUNCAN & YOUNGS

95 Worth Street, NEW YORK
Practical Manufacturers of
YARNS, THREADS, TWINES, CORDS, ROPE
AND MILL SUPPLIES
Anything in the line you cannot get anywhere else apply to us.

French System. Bradford System.

B. F. BOYER CO.,

MANUFACTURERS OF

WORSTED AND WOOLEN YARNS,

Office and Mill, River Ave. and Marlton St. CAMDEN, N. J.

KROUT & FITE MANUFACTURING CO.,

Manufacturers of

Silk, Cotton and Mercerized Narrow Fabrics

SPOOL TAPES A SPECIALTY.

Telephone Connection. Office and Mill, Allegheny Ave. and Emerald St., PHILADELPHIA.

Pocasset Worsted Company

WORSTED YARNS

100 Boylston Street, - Boston, Mass.

H. HODGSON, Pres. & Treas. FRED HODGSON, Gen. Mgr.

QUEENSBURY MILLS

Mohair, Lustre and Worsted Yarns

—Single and Two Ply—

Grey—Colors on Mixtures **Worcester, Mass.**

WORSTED YARNS

RICHARD CAMPION.

SELLING AGENT FOR

Bristol Worsted Mills,
Highland Worsted Mills.

300 Chestnut Street,
PHILADELPHIA, PA.

Woolen and Merino YARNS

Eaton Rapids Woolen Mills,

EATON RAPIDS, MICH.

Bradford System French System

STEPHENSON & CO.

Worsted and Woolen Yarns

240 Chestnut Street
PHILADELPHIA.

FRANK A. TIERNEY,

TOPS, NOILS, ROVINGS, YARNS.

Wool, Silk, Mohair, Camels Hair, Ramie.
Garnetted Stocks
Silk also Ramie Tops and Noils, Ramie, Silk, and Silk Noil Yarns,
Special Textile Fibres and Novelties.

Wool Exchange Bldg., 260 West Broadway, New York.

Worsted AND Woolen Yarns

WALTER McCOOK

BELL TELEPHONE LOMBARD 3790 576 Bourse Philadelphia

Lowell Crayons

Meet the requirements of any cotton, woolen or worsted mill.

May we send samples? 15 colors and white.

Lowell Crayon Co., Original Manufacturers Lowell, Mass.

Trade Mark on every box.

Joseph D. Swoyer & Co.,

Manufacturers and Commission Merchants

Woolen, Worsted and Cotton Yarns

HOWARD AND BERKS STREETS,
PHILADELPHIA.

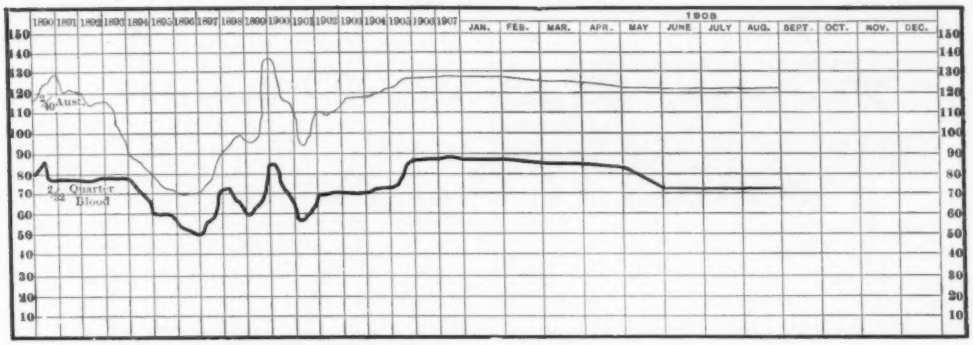


CHART SHOWING RANGES OF PRICE OF WORSTED YARNS.

business for these goods is very small.

The woolen trade is very slow. Thibets, broad cloths and cloths on this order are being offered below cost.

The dress goods trade for the past month has been fairly good. Buyers have been looking over lines for quick delivery to get additional samples before their customers. Some few houses have received very nice orders and are expecting to have a very good season, while others have found their lines defective and have had to make up samples of new styles.

There has been quite a little spurt among the manufacturers of sweaters and fancy knit goods within the past few weeks. The large retailers now realize that they have not placed sufficient orders for this class of goods. With the fall season so near they are without stock and many of them are now placing orders freely.

There is very little business coming in from the underwear trade. Spinners expect very little from this source.

The glove business seems to be looking up and the manufacturers, basing their opinion upon present weather conditions, feel that we will have an early winter which no doubt will stimulate this branch of the knitting industry; in fact one knitter from New York State is reported as having taken an order of considerable proportions for this class of goods. These knitters have heretofore, on account of the high price of worsted yarns, been compelled to use a thread of cotton twisted with worsted and known as a union or combination yarn. Owing to the big drop in the price of worsted yarn within the past six months, they are now able to knit up a pure worsted or woolen glove which has had a tendency to increase the sale of these goods.

We quote as follows:

BRADFORD SPUN YARN.

2/12 to 2/16 low common	60-62½
2/26 to 2/28 common	67½-70
2/12 to 2/20 1/4 blood	70-72½
2/26 to 2/28 1/4 blood	72½-75
2/32 to 1/4 blood	77½-80
2/20 3/8 blood	80-82½
2/26 3/8 blood	82½-85
2/32 3/8 blood	85-87½
2/36 3/8 blood	87½-90
2/40 1/2 blood	1.00-1.02½
2/40 delaine	1.02½-1.05
2/50 delaine	1.05½-1.08
2/40 Australian	1.20
2/50 Australian	1.27½
2/60 Australian	1.45
2/24 lustre	75-77½
2/28 lustre	80-82½
2/30 and 3/32 lustre	82½-85
2/36 lustre	92
1/24 worsted and 80s single cotton for raincloths	1.00-1.05
1/24 worsted and 120 single cotton for raincloths	1.15-1.20

FRENCH SPUN YARN.

1/20 1/4 blood	73-75
1/20 high 1/4	75-77½
1/20 3/8 blood	80-82½
1/20 1/2 blood	85-87½
1/20 high 3/8	82½-85
1/30 high 1/4 blood	77½-80
1/30 3/8 blood	82½-85
1/30 1/2 blood	87½-90
1/40 1/2 blood	90-92½
1/50 delaine	1.20-1.22
1/40 Australian	1.18
1/50 Australian	1.27½
1/60 Australian	1.37½
1/70 Australian	1.41

*South Carolina, Union. At a meeting of the creditors of the Aetna Cotton Mills, held a few days ago, it was decided that the mill property should be offered for sale on Wednesday, October 21.

TRY

TRADE MARK NON-FLUID OILS REGISTERED IN UNITED STATES PATENT OFFICE

FREE.

Lubricants that make three wipings necessary to every application or spatter where they may do damage, aren't economical or desirable. Ordinary oil is naturally sloppy and grease changes quickly from solid to fluid. Either will let the bearings run dry, will flow over the outside and get slung from the fly-wheels, pulleys, etc.

Non-Fluid Oils are the most cleanly, most efficient and most economical lubricants on the market.

In addition to outlasting oils or greases **Non-Fluid Oil** prevents wear and tear better, thus will insure most efficient service from your machines and low repair and lubrication bills.

Send for a free sample.

ORIGINATORS AND SOLE MANUFACTURERS

New York & New Jersey Lubricant Co.,

Dept. H, 14-16 Church St., New York City.

William B. Charles,

Amsterdam, N. Y.

Cotton Yarns, Cotton Cloth, Silesia, Sateens,

For the Underwear Trade.

Knitting and Weaving YARNS.

Cones, Cops, Warps, Skeins,
Single, Double, Three-Ply, etc.
Peeler, Egyptian, Mixed Colors.
Large Assortment.

EDWARD S. HYDE,

226 CHESTNUT STREET,

Philadelphia, Pa.

The Rag and Shoddy Market.

Very little business is being done in this market. There has been a slight call for fine light colored stock, but outside of this practically nothing has been going on. Prices have ruled firm and dealers have ignored occasional offers below quoted rates. Wool waste has been dull, the demand having been confined to light shades. The supply is running low owing to so many mills being idle. Cotton waste has been lower in sympathy with the decline on raw cotton. We quote as follows:

SHODDIES AND EXTRACTS.

White yarn, best all wool	41-48
White knit, all wool, best fine	31-40
White knit, No. 2	30-39
Light yarn, extra fine	30½-32½
New pure indigo blue	30½-33

Merino.

Fine light, all wool	26-27½
Medium light, all wool	17½-19
Fine black, all wool	25-30½
Fine dark, all wool, best grade	21-22½
Medium dark, all wool, No. 2	15-18½
Red knit stock, strictly all wool	20-22½
Red flannel, all wool	
Dark blue for hosiery, strictly all wool, No. 1	20-23½
Dark blue for hosiery, not all wool, No. 2,	16-18

WOOLEN RAGS.

Fine merchant tailors	10-13½
Choice light colors	16-17
Browns	12-15
Blacks	10½-13½
Fine blues, plain	10-12½
Fine dark	10½-13
Medium dark	6-10½

Worsteds.

Blue	15-19
Black	20-22½

Serges.

New black	16-17½
New blue	

Flannels.

New scarlet	19-20½
New blue	16-19
Cloakings	4-7

SOFTS AND KNIT STOCK.

Soft woolens, best	6-8
Old white flannels	20-23½
Old red flannels	12-18
Old blue flannels	9-10½
Old plaids	8-10
White stockings	20-23
White hood stock	20-22½
Clear hoods	9-12½

CHENEY BROTHERS

Silk Manufacturers. So. Manchester, Conn.

Trams, Organzine and Spun Silks in the hank, or on spools and cones for woolen manufacturers.

Silks for electrical uses, insulation and special purposes made to order.

Knitting Silks, Ribbons and Piece Goods for Trimming Knit Goods.

Dress Silks, Satins, Linings, Printed Pongees, Foulards and Decorative Silks; Upholstery Goods, Ribbons, Sashes, Plushes and Velvets.

WILLIAM RYLE & CO.,

Foreign and Domestic

Spun Silk Yarns and Noils.

Domestic Thrown Silk of every description. Fine Pure Dye Silks for the woolen trade a specialty. Importers of European and Asiatic Raw Silk.

54 Howard St., cor. Mercer St., NEW YORK.

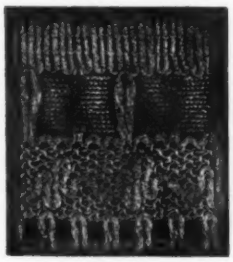
SAUQUOIT SILK MFG. CO.,

INSULATING AND BRAIDING SILKS.

ORGANZINE, TRAM & HOSIERY SILKS.

Fast Dye Organzines for Woolen Manufacturers a Specialty.

Mills: Bethlehem, Pa., Phila., Pa., Scranton, Pa. New York Representatives, Wm. Ryle & Co., 54 Howard St.—Phila. Office, 4015 Clarissa St., Nicetown.—Chicago Office, 188-190 Market St.—Boston Office, 78 Chauncy St.



GEORGE W. CHAPIN,

BRAIDS Cotton, Worsted, Mercerized, Cotton and Silk Twilled. **TAPES** Common, Twilled, Superfine and Plain 13 to 358, white and colors on spools.

YARNS Cops, Skeins, Warps, Tubes and Cones. **THREADS** on Spools, Tubes, Cones, Unbleached Bleached and Colors for Manufacturers' use.

CROCHET LACE EDGINGS Latest Styles in Pant Laces.

229 Church Street 231 . . PHILADELPHIA

Dyestuffs and Chemicals.

Acids.

Acetic, 100 lbs.	2.60-3.20
Citric, domestic	50-52
Oxalic	8-9
Sulphuric, 66°, 100 lbs.	1.25-1.80
Muriatic, 18°	1.10-1.80
Tartaric crystals	26-30½

Miscellaneous Chemicals and Dyestuffs.

Acetate of lime, gray, 100 lbs.	2.50-2.95
Alum, lump	1.72-2.50
ground	1.80-2.25
powdered	2.80-3.32
Aqua ammonia, 26°	4-7
Ammoniac, sal., gray	
Borax, bbls.	4-7½
Brimstone, crude, ton	25-50
Copperas	62-80
Cream tartar, crystals	22-25
Fuller's earth, powdered, ton	18-20½
Glauber's Salt	51-65
Potash, chlorate, crystals	11-12
powdered	12-13
carbonate	6-7¼
Soda, bicarbonate	1.60-1.75
Soda, caustic, domestic, 60 per cent.	1.73-1.90
Sal., American	72-85
Vitriol, blue	5-6
Acetate of soda	4-6½
Acid, picric, best crystals	26-30
tannic, commercial	30-41
Albumen, egg	60-70
blood	24-32
Alizarine, red	17
Aniline, oil	11-15
salt crystals	13
Bichromate of potash, American	9½-10½
Bichromate of soda	8-8½
Bisulphite of soda	3-4½
Cutch, mat	5-7
Dextrine, imported potato	6-10
Divi-divi, ton	45-68

Pennsylvania, Philadelphia. The Lee Thread Co. has been incorporated with capital stock of $15,000. It is understood that a manufacturing plant will be equipped.

Rhode Island, Providence. No. 2 Mill of the Paramount Worsted Mills is running two shifts of help, being kept in operation all night.

Rhode Island, Thornton. Night work has been resumed at the Pocasset Worsted Company, affording employment to about 200 more hands. This schedule will be continued indefinitely.

*South Carolina, Leesville. The project to build and equip a cotton yarn plant to manufacture low grades of yarn from inferior cotton marketed in the vicinity of this place, has been dropped, and the Leesville Cotton Mills Co., chartered in September, 1907, with capital stock of $100,000, has gone into liquidation.

*Texas, Galveston. In June it was reported that the Business Men's League was to form a company to build a bagging factory. It is stated that good progress has been made on this project.

EDWIN F. SCHOFIELD
ALL GRADES
PULLED AND FLEECE WOOLS
FOREIGN NOILS, CARPET WOOLS.
COTTON WASTE.
45 SOUTH 3RD STREET,
Philadelphia, Pa.

William B. Charles,
Amsterdam, N. Y., U. S. A.
Cotton and Wool Wastes
COTTON YARNS
Contracts made with Cotton and Woolen Mills for Yearly Waste Production. Correspondence solicited. Shepperson's Code, 1878. Cable Address "Charles."

SHODDY W. H. H. SLACK & BRO. SPRINGFIELD, VT.
Established 1871 **FLOCKS**

Carpet Manufacture
BY FRED BRADBURY
The only complete work on the subject.
A handsome volume, bound in dark green cloth, gold lettering; over 300 pages; 250 illustrations and 3 colored plates.
Price $3.00—Carriage Prepaid.
A reliable book on carpet and rug manufacture that will strongly appeal to the manufacturer and designer. It is written in an easy style, combining text and illustrations in a manner that gives the perfect technical book.
The chapters are: Designing, Color, Brussels Carpets, Wilton Carpets, Tapestry Carpets, Axminster Carpets, Chenille Axminster Carpets, Kidderminster and Scotch or Ingrain Carpets.
LORD & NAGLE CO., Publishers, Boston, Mass.

Chemische Aniline Works
Manufacturers of
Anthracin & Coal Tar Products
24-26 Stone Street
New York

FIRE, LIGHTNING, WINDSTORM.

The HOME INSURANCE COMPANY NEW YORK

Organized 1853. MAIN OFFICES, 56 CEDAR ST.

Cash Capital, $3,000,000.

ASSETS January 1st, 1908	$20,862,698
LIABILITIES (Including Capital)	13,659,487
RESERVE AS A CONFLAGRATION SURPLUS	500.000
NET SURPLUS OVER ALL LIABILITIES AND RESERVES	6,703.211
Surplus as Regards Policy-holders	10,203,211
Losses Paid Since Organization Over	110,000,000

Note amount of surplus after providing for San Francisco and other conflagrations.

HOME Policyholders everywhere have protection, which is sure, notwithstanding conflagrations anywhere.

IS prepared to entertain liberal lines on Sprinkler-Equipped and Modern Improved risks generally, having a special department for the consideration of such business.

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AREUNAH M. BURTIS, Secretary.
CHARLES L. TYNER, Secretary.
HENRY J. FERRIS, Asst. Secretary.

Arkansas, Malvern. Reports state that J. A. McMahon of Nashville, Ark., will establish a woolen mill at this place. Mr. McMahon recently purchased the property of the Arkansas Woolen Mill, Inc., of Nashville, and is making a number of improvements. Mr. McMahon was until recently employed in Philadelphia.

Connecticut, East Lyme. Business at the Niantic Mfg. Co. continues to improve and the full schedule of hours is now in operation with prospects of being continued indefinitely.

Connecticut, Jewett City. The plant of the Ashland Cotton Co. resumed work Tuesday, August 4, after being shut down a few days for repairs and on account of low water.

Louisiana, Winfield. The Farmers' Union held a meeting here, at which the project for building a cotton mill was discussed. Nothing definite was decided upon.

Maine, Camden. Owing to the introduction of the two-loom system, the weavers employed by the Camden Woolen Co. are out on strike.

*Maine, Warren. The Georges River Mills have started up on the completion of several minor repairs.

*Massachusetts, Attleboro. The plant of the James Orr Co. is running full time with one-half the full complement of help. The recent fire had no effect on the operation of the plant.

Massachusetts, Boston. Frank E. Baldwin, Journal Bldg., this city, has sent out several hundred letters to Boards of Trade in Southern cities, requesting information as to the facilities they offer for cotton manufacturing. Nothing definite at this time in regard to this project.

*Massachusetts, Clinton. The first meeting of the creditors of the Pickford Worsted Co. will be held in the State Mutual Bldg., Worcester, Mass., on August 13, at the office of Charles F. Aldrich, referee in bankruptcy. It was reported some time ago that a committee had been appointed by the Board of Trade to reorganize the company, but nothing further along that line has been given out.

Massachusetts, Clinton. A number of men are at work making repairs to the building formerly used as a power house by the Harris Comb Co. This building is owned by the Lancaster Mills Co.

Massachusetts, Lawrence. The Arlington Mills are being run six days a week for the present and it is hoped that the present schedule will be maintained.

Massachusetts, New Bedford. It is reported that the Denworth Rug Factory of Philadelphia is considering the advisability of removing its plant to this city. They are looking for a building one or two stories high, 50 by 100 ft. The Denworth Rug Factory operates four broad and nine narrow looms on art rugs at the rear of 3045 Boudinot St., Philadelphia. Wm. A. Denworth is proprietor.

North Carolina, Spray. All the mills at this place are now operating six days a week, and it is stated that the outlook is for fair business from now on.

The WM. H. LORIMER'S SONS CO.,

Manufacturers of

MERCERIZED YARNS

FOR ALL PURPOSES.

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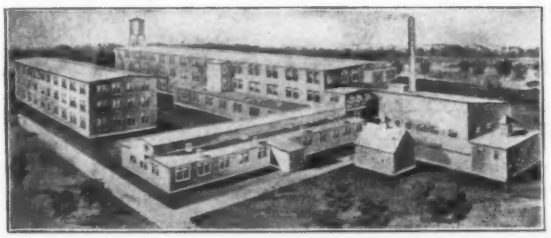

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in skein, and long and short

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Fast Colors a Specialty.

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Dyers and Finishers

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APOLLO OIL is perfectly soluble in warm or cold water and washes out perfectly. Apollo Oil penetrates the fibre so that the lubricating qualities are retained throughout the Carding and Spinning processes. Batches can be oiled with Apollo Oil and stored for months without spontaneous combustion or gumming the stock. Apollo Oil is widely used in Germany and is now being introduced in this country. *Manufacturers and Carders are invited to send for a sample and make a practical test.*

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For Raw Stock, Cotton and Wool Dyeing.

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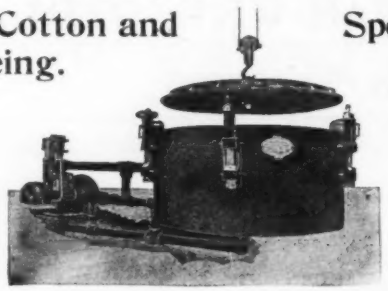

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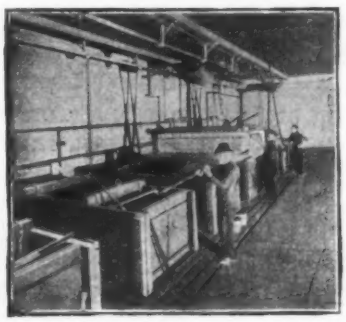

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The saving of labor will more than pay for a machine in a few months.
Capacity; 2,000 lbs. a day per man.
Machine can be seen in operation at any time at my plant where I have 13 in operation all the time.

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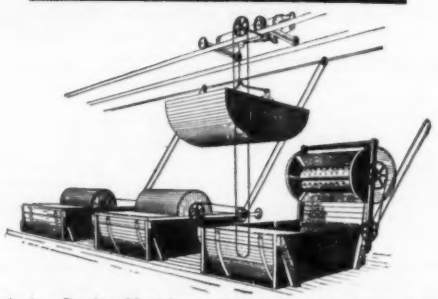

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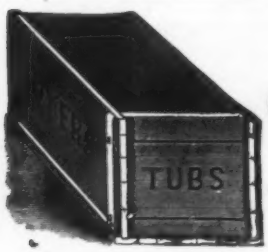

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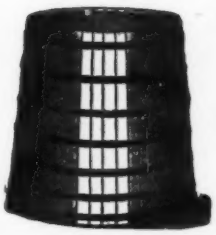

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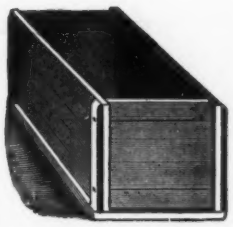

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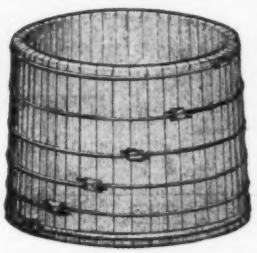

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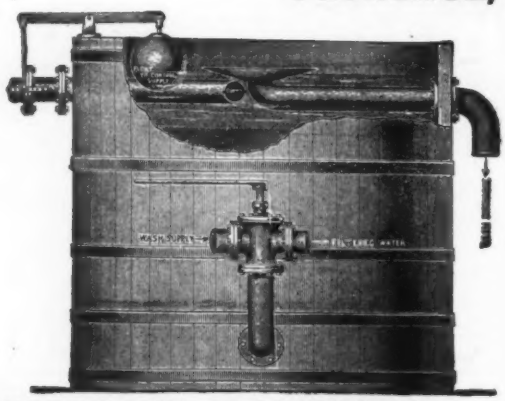

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Hungerford Filters having a daily aggregate capacity of over **Thirty Million Gallons** per day are now in operation in the Textile Mills of America.

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Largest Manufacturers of all classes of Hosiery Machines.

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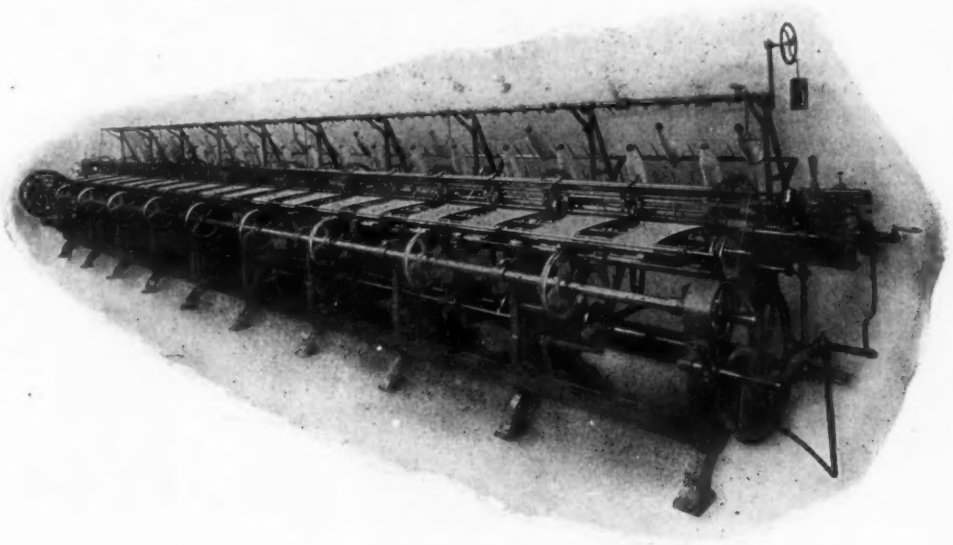

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Automatic
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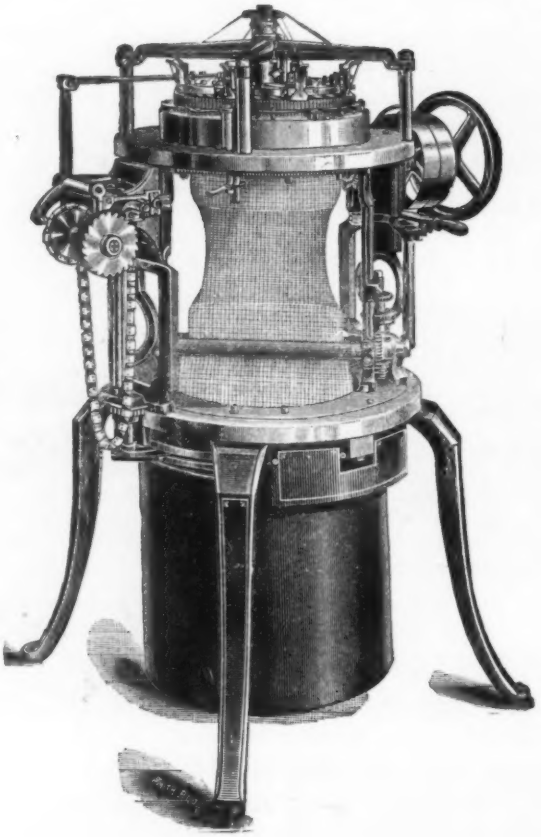

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AUTOMATIC AND PLAIN

For all classes of Ribbed Hosiery, Underwear, Combination Suits, Sweaters, Etc.

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All Special Machines for Any Article That Is Knit

Full Fashioned Hosiery Machines

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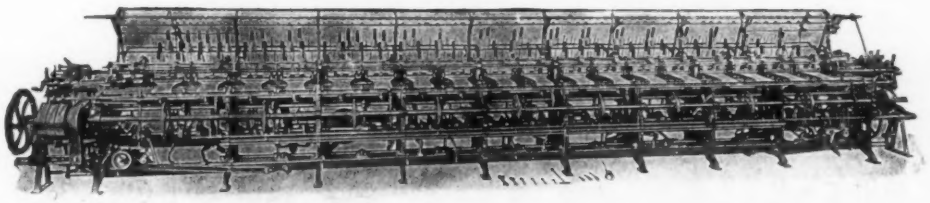

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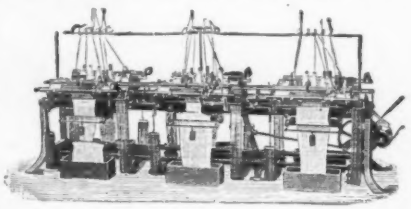
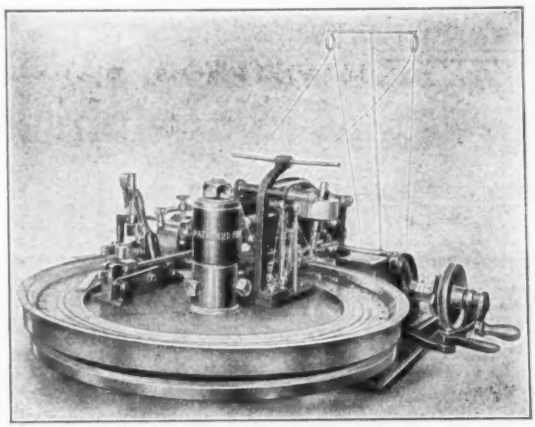
GROSSER Flat Knitting Machines
For HAND Power or FULLY AUTOMATIC Power MACHINES. Most productive and best machines for Sweaters, Jackets, Blouses, Wool Hosiery, Gloves, Mittens, Sporting Goods in Plain, Fancy and Jacquard Work, Shaker Articles, etc. Large stock on hand. Power Machines to be seen in operation.



CIRCULAR FRENCH FRAMES
C. Terrot Söhne, Cannstatt, Würt, famous builders of the best Circular Frame for Finest Underwear, Fleece Linings, Gloves, Special á-jour (openwork) Fabrics, etc.

RASHEL MACHINES [Double Rip Warp Knitting Machines.]
For Fancy Goods in largest variety, Shawls, Capes, Caps, Borders, Fringes, Lace Work, etc., in silk, wool cotton.



The LOOPER THAT LOOPS!
Two thread lock stitch machine with reliable trimmer and raveller producing *indestructible, flat elastic* seam.
No Hosiery or Underwear plant up to date without this machine.

DIAMOND OVERSEAMERS
for all classes of selvege goods, Full Fashioned Hosiery, Underwear, etc.

FINISHING MACHINES for Knit Goods of all styles.

WINDERS for finest yarns.

Information, Samples and Specifications at Your Disposition

FRIEDBERGER-AARON MFG. CO.

Leading Manufacturers

Braids and Edgings

For Trimming

Ladies' Ribbed Underwear.

Having Installed More New Machinery and **Increased Our Facilities** in general, we are in better position than ever to sustain our **Established Reputation.**

Mills: Germantown, Philadelphia

P. O. Address, Logan Station, Philadelphia.

Higher Speed

To Reduce Cost of Production by Increasing Output of Operators

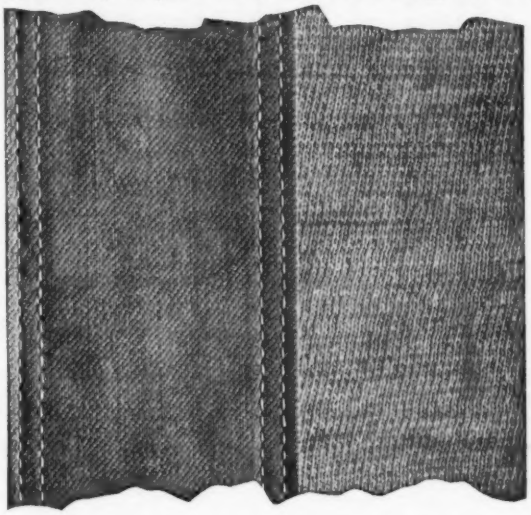
Higher Efficiency

USE

Multiple Needle Machines

For all Multiple Needle Operations, whether for Ornament or for Service, where it is desired to have a plurality of parallel rows of stitching, needles spaced as desired

Yielding Bottom Presser Foot to be used where different thicknesses of Fabric are being Stitched Simultaneously



Special Fittings and Attachments now ready for Numerous Manifold Operations

Greater Simplicity

Style 16100 A-4 Needles-8-80-8 Gauge
Stitching Front Facings to Shirts
One Operation

Greater Durability

Union Special Machine Company

BRANCHES
96 South St., Boston, Mass.
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HOME OFFICE AND WORKS
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BOARDS FOR FAST BLACK DYERS.

HOSIERY FINISHING BOARDS.

BEST WORK. PROMPT SERVICE. PRICES ALWAYS RIGHT.

JOS T. PEARSON 815 21 TAYLOR ST. KENSINGTON PHILA

Hosiery Boards.

JAMES TAYLOR, 121 Arch Street, Philadelphia Pa.

ALL KINDS OF NEW AND SECOND HAND **KNITTING MACHINERY**

A RARE OPPORTUNITY TO BUY.

60 Lamb and Grosser sweater machines.
30 Standard "B" 3¼" Knitters, 200 Needles.
20 " "B" 3¾x4" " 188 "
54 " "B" Knitters for sizes.
24 Mayo "Acme" " " "
7 National Knitters, 3¾ in., 216 needles.
7 " " 3½ " 200 "
60 Lamb & German flat machines.
2 Double Ribb machines
1 Crane Style Collarette Machine 20" 16 to in.
1 Rotary Fire Pump. 3 small Pumps.
2 Toque machines.
4 Hosiery Dryers.
500 Dozen hosiery shaping boards.
1 Caligraph Typewriter
1 5 h. p. Gen. Electric Motor, 3 phase.
1 ½ h. p. Electric Motor.
500 Payne Winder Bobbins.
100 ¾ Aut. Knitters, various makes and sizes.
4 Abel 36 Spindle Cop Winder.
1 Huse 80 Spindle Cop Winder.
1 Uhlinger 42 in. Extractor, friction driven.
1 Cleveland 42 in Extractor belt driven.
1 Crawford 21 plate Press 31 x 44 (hollow plate, screw press).
1 Pownall Screw Press 34 x 52 in.
1 Baling Press 36 x 48.
5 Band folding and cutting machines.
1 Curtis & Marble Napper, 66 in.
1 McCreary Napper, 60 inch, 16 rolls.
8 Jones Fleecers, 24 x 36 in.
6 Platform Scales, on wheels.
1 Singeing Machine.
1 Hosiery Printing Press.
4 Hosiery Lever Presses.
42 Union Spec. Sewing Machines, various styles.
50 Loopers and Seamers, all makes.
60 Ribbed Underwear machines.
300 Hosiery Ribbers and Sleevers.
29 Standard "B" 3¾ in., 176 Needle Knitters.
3 Small Steam Traps.
1 Farrell, Herring & Co. fire proof safe.
1 40 Spindle Payne Skein Winder.
1 24 " " " "

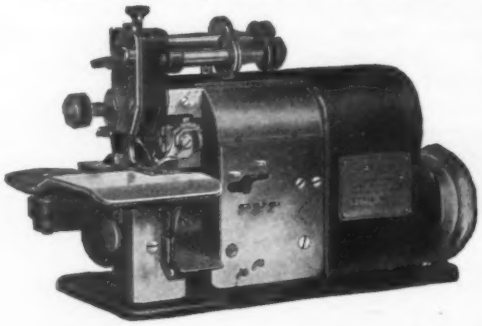
WRITE FOR COMPLETE LIST. APPRAISEMENTS A SPECIALTY.

We are always in the market to buy good second-hand Knitting and Finishing Machinery.

The Merrow

High Speed Overseaming, Overedging and Scallop Stitch Machines are

FAST
DURABLE
Light Running



OUR NEW STYLE 60 MACHINE for Trimming and Overseaming in one Operation produces the strongest, best Seam and does it with the greatest economy.

USE STYLE 18 for Horse Blankets.
STYLE 17 or 22 for Bed Blankets.
STYLE 35 B SHELL, for Necks and Fronts of Rib Goods, produces the most showy, substantial finish.

Send for Catalogue and Samples.

THE MERROW MACHINE CO. HARTFORD, CONN.

Knickerbocker Building, Sixth and Arch Sts., Phila. Room 321, 467 Broadway, New York

EXCELSIOR KNITTING MACHINE MFG. CO.

Meadow and Washington Streets

ALLENTOWN, PENNA.

BUILDERS OF

Full Automatic Knitters

With or without **Transferring Device**

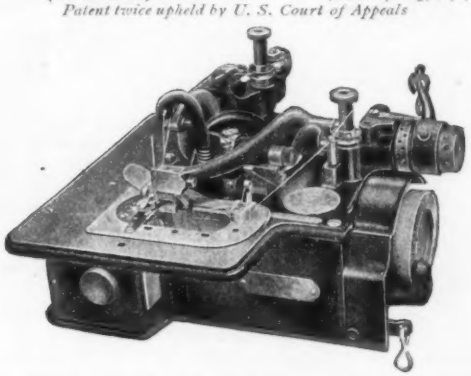
ALL SIZES AND GAUGES, 2 1-4 INCH TO 4 INCH

AN INSTRUMENT OF PRECISION!

"OVERLOCK" MACHINE

(Trade Mark) (Pat. April 5, 1892)

Patent twice upheld by U. S. Court of Appeals



Trade Mark. Reg. U. S. Pat. Off.

Business Established in 1858.

For TRIMMING, SEAMING (or Hemming or Overedging) and COVERING Raw Edges of Knit Underwear and Hosiery in **ONE OPERATION** at **3000 Perfect Stitches per Minute**

WILLCOX & GIBBS SEWING MACHINE CO.,

General Offices: 658 BROADWAY, cor. BOND STREET NEW YORK, N. Y.

LONDON PARIS MILAN DRESDEN BRUSSELS NOTTINGHAM

The Invincible

Full Automatic.

"The KNITTER that KNITS"

THE LARGEST PRODUCER OF PERFECT WORK.
SIMPLE, POSITIVE AND EASY TO OPERATE.

E. JENCKES MFG. CO.

Pawtucket, R. I.

PHILADELPHIA OFFICE,
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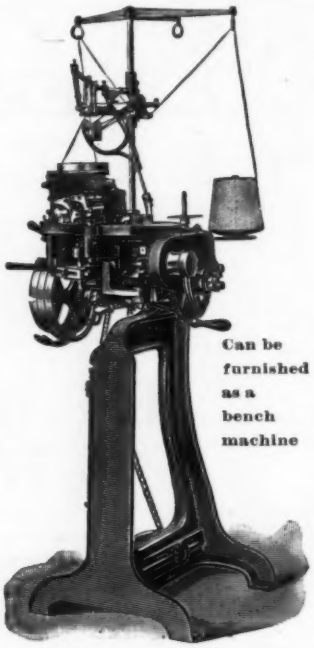
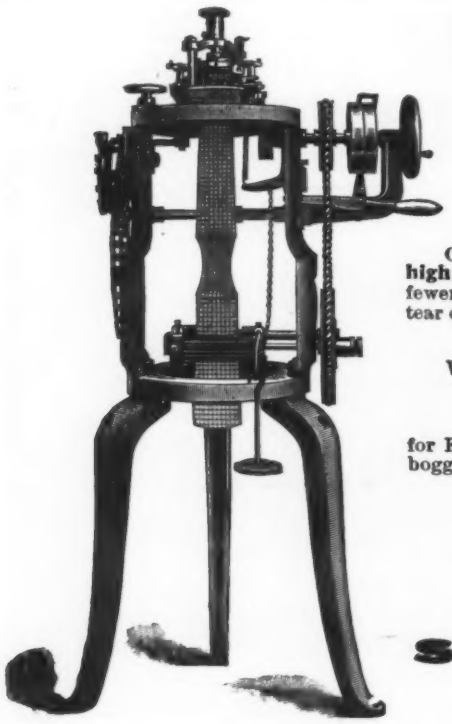


Can be furnished as a bench machine



High Speed Rib Knitting Machinery.

Our latest model machinery has been designed to run at very high speed, giving large production. This is accomplished with fewer seconds, less breakage of needles, less jar and wear and tear on machines than has been customary at lower speeds.

We also make Special

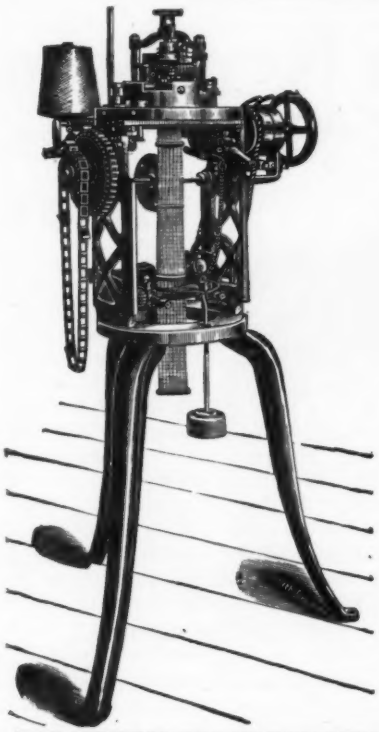
STRIPING AND DESIGNING MACHINES

for Fancy Golf Stockings, Bathing Suits, Sweaters, Toques, Toboggan Caps, Skirts, etc.

Our Machinery gives large production at low cost and enables manufacturers to meet the market always and make a profit.

STAFFORD & HOLT,

LITTLE FALLS, N. Y.



H. Brinton & Co.

213-215 Race Street, Philadelphia, Pa.

BUILDERS OF

Knitting Machinery

For HOSIERY and UNDERWEAR.

Complete Estimates Furnished. Send for Particulars.

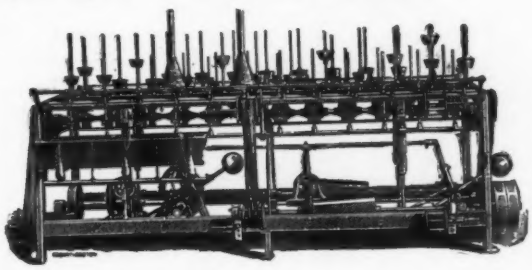
The cut shows our Improved Automatic Ribber with Welt and Slack Course for Half Hose, Tops and Ribbed Legs.

CIRCULAR KNITTING MACHINES

Either plain or full automatic, with stop motions complete. 4 to 24 feeds for

RIBBED UNDERWEAR

Automatic Racking and Striping Machines for Sweaters, Cardigans, Collarettes, Cuffs and Anklets.



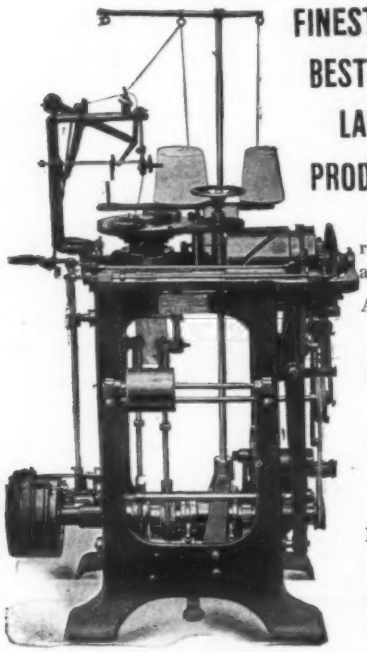
ALSO BUILDERS OF THE WELL-KNOWN

ABEL WINDERS, SEAMERS and LOOPERS.

LEIGHTON MACHINE CO., - Manchester, N. H.

"NATIONAL"

Stands for



FINEST GAUGES
BEST FABRIC
LARGEST
PRODUCT ON

Greatest Variety of Laces and Novelties.

Allautomatic.

Lowest Cost for Operating

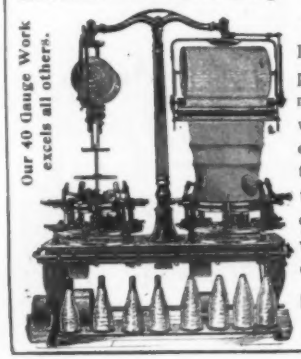
Also
Rib Knitting Machinery, Overedge, Crochet and Shell Stitch.

NATIONAL AUTOMATIC KNITTER CO.

728 Cherry Street, PHILADELPHIA, PA.

We are the Oldest Manufacturers

of this Design of Spring Needle Knitting Machine in this Country



40 years' experience

Do not be misled by people who became manufacturers in 1903 without any previous experience who are trying to represent that they are the oldest manufacturers. Investigate. Call and see our fine gauge work.

Robt. W. Gormly & Co.
Troy, N. Y.

The New Boss Seamless Knitter

Do you want the biggest production with the least menders, for the least money? If so, write to the Boss Knitting Machine Works for their circular with full directions. There is no cylinder to be handled. We use only one cylinder and transfer device for half hose or ladies' hose. This machine beats them all. Has no equal for simplicity and durability. Makes 300 revolutions per minute. Built in sizes from 2¼ to 5½; from 40 to 224 needles. Automatic in heel and toe. It is the strongest built knitter on earth.

Send for prices and particulars.

THE BOSS KNITTING MACHINE WORKS,
Cor. Elm and Reed Sts., Reading, Pa.

"Acme" and "Hemphill"

SEAMLESS HOSIERY

Knitting Machines

built by

Mayo Knitting Machine & Needle Company

Franklin, N. H.

Answer all purposes in the *most reliable*, *up-to-date*, and *economical* manner. Write us for full particulars.

Manufacturers like our Latch Needles

because we make a superior grade of needles.

Philadelphia Office, Knickerbocker Bldg.

STANDARD MACHINES FOR HOSIERY MAKING

The STANDARD F, with attachments, can make any and all of these fabrics:

Plain Goods
Plaited Work
Three Color Stripes
Tipped Heel and Toe
White Foot
Changed Heel and Toe
Garter Top
Loopers Slack Course

Most Stockings—Best Fabrics—Longest Life

Standard Machine Company

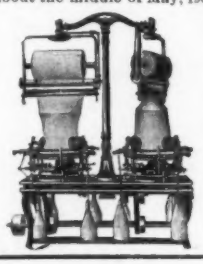
OFFICE AND SHOW ROOMS

330-340 North 12th St., Philadelphia

We Are the Oldest Manufacturers
IN THE WESTERN HEMISPHERE
Of Circular Spring Needle Loop-Wheel Knitting Machinery.

TOMPKINS BROS. CO., Troy, N.Y.

We submit the following extract from the sworn testimony of R. W. Gormly, in U. S. Circuit Court, Northern District of New York, in equity, No. 6764:
Cross Question 123. How long have you been a manufacturer of knitting machines? Answer. I started in this business about the middle of May, 1900.



Tompkins Knitter

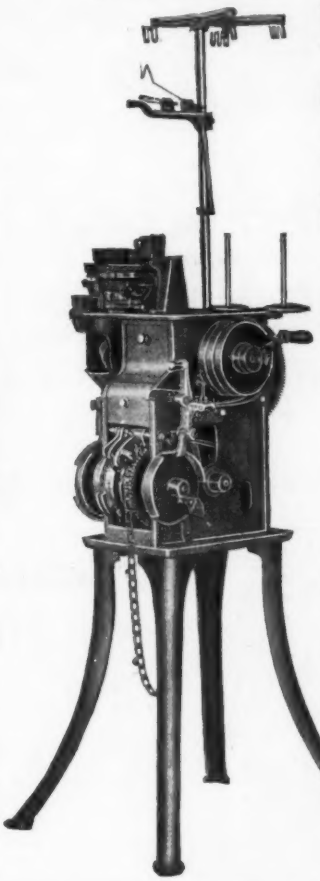
This design was adopted in 1875.
BUSINESS ESTABLISHED in 1846, before ROBERT W. GORMLY Was born, according to his testimony in the case above cited.

"THE BANNER"

Hemphill's Latest

A FULL AUTOMATIC MACHINE

Specially adapted to



Plaited Goods
and
String Work
also
High Splice
and
Double Sole

Largest Production
More Yarn Changes
Highest Speed
Simplest
Least Repairs

Produces a Superior Quality of Work.

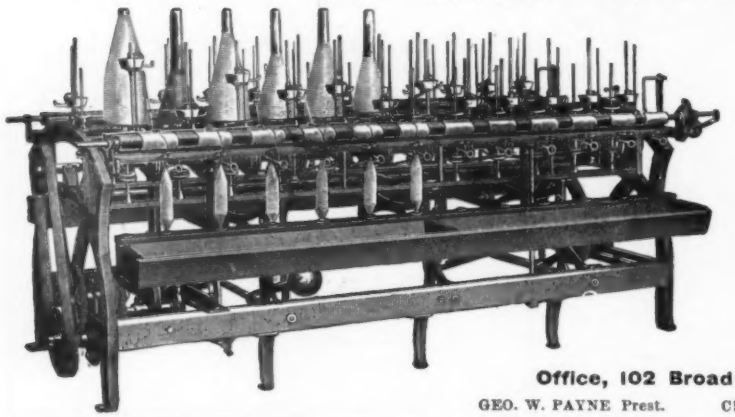
MANUFACTURED BY THE

Hemphill Mfg. Co.

131 Clay Street, PAWTUCKET, R. I.

OVER 1,900 PAYNE WINDERS IN USE

By Hosiery Manufacturers,
Wind for Cop, Skein or Bobbin.



Improved

Upright Spoolers,

To Spool from Cop, Skein or Bobbin.

Doubling Spoolers for doubling 2, 3, or more ends into one.

Upright Quillers, Quill from Cop, Skein or Bobbin.

Ring Dresser, Spooler and Reel Spindles, Cop Skewers, Warp, Spool, Spooler, Guides, Bolsters and Stops Made and Repaired at Short Notice.

GEO. W. PAYNE CO.,

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HEPWORTH & CO.'S

Patent Single-Stitch

LOOPING MACHINE.

Needle working from the inside, avoiding the breaking of needles and points and picking up the metal.

Single and Double Stitch, or Both Combined.

JOHN W. HEPWORTH & CO.,

N. W. Cor. Lehigh Ave. and Mascher Street,

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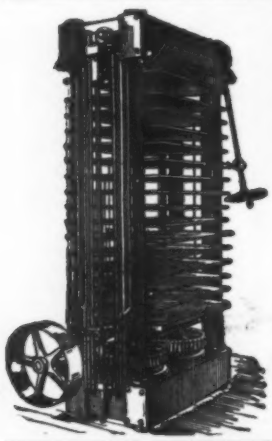

Reliance Hot Plate Press

For Hosiery and Underwear Trade.

For price and particulars address

CHARLES HART

Hodge and Brown Sts.,
Frankford, Phila., Pa.

Patent Loopers

Both single and double Stitch.

with the
Patent Raised
or
Straight Points.

Beattie Machine Works,

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WILLIAM C. BULL,

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MAKER OF

Drying Form Boards

OF EVERY VARIETY.

For Ladies', Gents' and Children's Goods.

Latest Styles.
Best Workmanship.

PAXTON & O'NEILL'S

Full Automatic Knitter

FOR ALL KINDS AND GAUGES OF SEAMLESS HOSIERY.
RANGE ON HALF HOSE AND LADIES FROM 260 NEEDLES DOWN.

3-4 AUTOMATIC KNITTER

With Lace Effects.

Exclusive rights to BROWN'S LACE ATTACHMENT.

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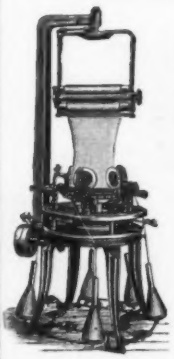

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Flat and Circular Rib, both Spring and Latch Needle, Plain Circular Machines, Lead or Trick Cylinder, **Spring Needle Cylinder Rib-Top Machines** for making Cuffs, Drawer Bottoms and Shirt Borders.

Spring and Latch Knitting Needles, Burr Wheels, Burr Blades, Sinkers, Jacks, etc.

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European Representative:
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1x/4 Schubertgasse, Nr. 22, Vienna, Austria.

The CRAWFORD

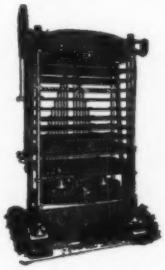

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PLATE PRESS

For Knit or Woolen Goods.

The most reliable machine of the kind on the market.

PRESS PAPERS and FENDERS.

SPENCE & RIDEOUT,

Successors to
J. J CRAWFORD & SON,
NASHUA, N. H.
Established 1868.

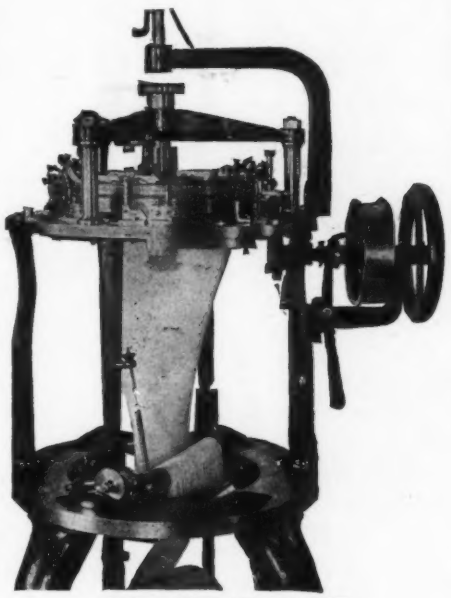
Established 1870 —Incorporated 1890.

CRANE M'F'G. CO.

LAKEPORT, N. H.

Manufacturers of

Spring and Latch Needle Machines for both rib and plain work, producing a great variety of fabrics. Patent removable hardened Wing Burr Wheels.



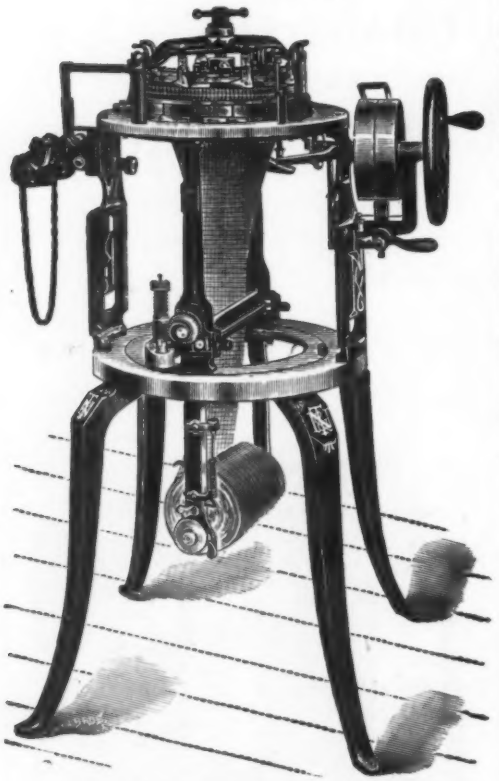
SPRING NEEDLE RIB MACHINE

NYE & TREDICK CO.

Circular Rib Knitting MACHINERY

For making Ribbed Underwear, Combination Suits, Sweaters, Cuffs, Shirt Borders, Hosiery, etc. : ; :

Correct Construction. Excellence and Durability.



LATEST IMPROVEMENTS
QUALITY OF FABRICS AND PRODUCTION
UNEXCELLED

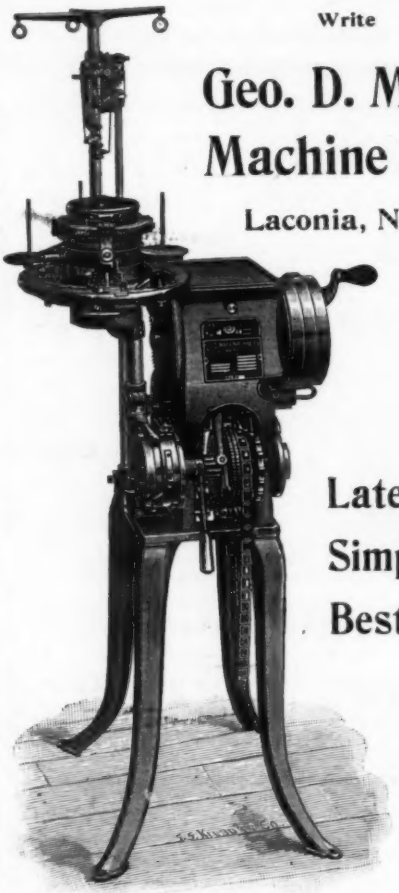
NYE & TREDICK CO.
606 Arch St., PHILADELPHIA, PA.

If You Want

Largest Production For Least Money

Write

Geo. D. Mayo Machine Co.,
Laconia, N. H.



Latest
Simplest
Best

MAYO'S

New Full Automatic Knitter

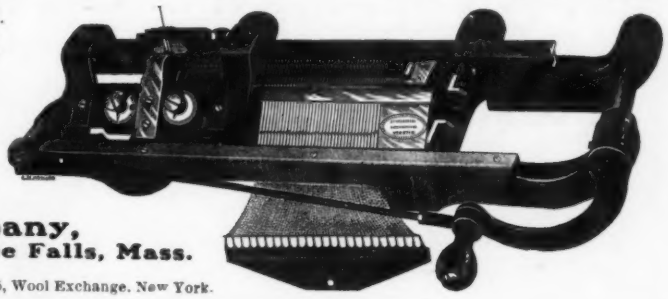
PHILADELPHIA OFFICE,
KNICKERBOCKER BLDG., COR. SIXTH AND ARCH STS.,
B. M. DENNEY, REPRESENTATIVE.

The LAMB

LEADER OF KNITTERS

Original and Still the Best.

Most widely used; being operated in every civilized country in the world. For description, prices, etc., see catalogue.



Circular Machines,
Rib Top and
Seaming Machines.

Lamb Knitting Machine Company,
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J. E. WOODHEAD, 100 22d St., Chicago.
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were the first machine builders in Chemnitz, Germany, to construct

Full Fashioned Hosiery Machines

upon the Cotton principle and which since their introduction have never been excelled by any other machine builder; be it in construction or productiveness. Built in all gauges and for any material, cotton, wool, lisle or silk.

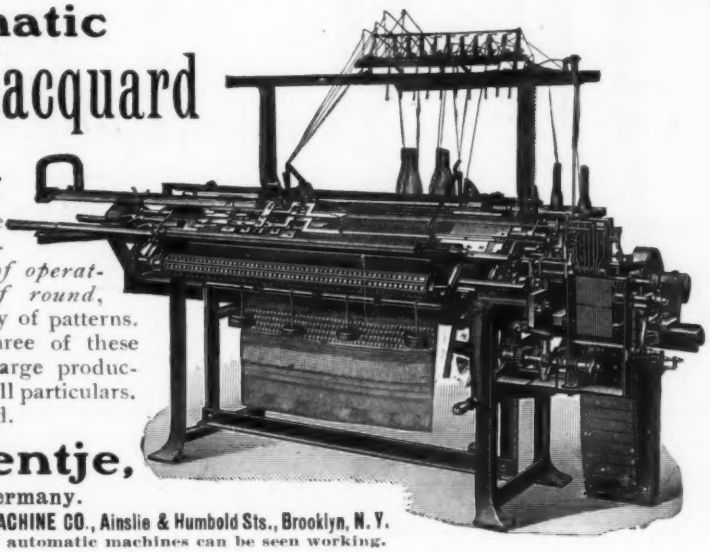
Sole American Representative,

Hugo Huettig, 581 Bourse, Philadelphia

Full Automatic
Noppen & Jacquard

for high-grade sweaters, jerseys, etc.
Latest improvements

Recognized as the best in the market. With Jacquard attachment allowing *change of operating mechanism every half round*, therefore unrivaled in variety of patterns. One operator attends to three of these machines. High speed. Large production. Ask for samples and full particulars. State gauge and size you need.



Claes & Flentje,

Mühlhausen Thr., Germany.

Representatives, **AINSLIE KNITTING MACHINE CO., Ainslie & Humbold Sts., Brooklyn, N. Y.**
Where all kinds of our hand and automatic machines can be seen working.

Edouard Dubied & Co.,

Couvet, Switzerland,

Knitting Machines,

Hand and Power.

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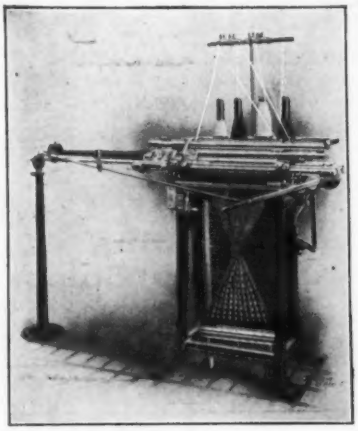

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Will cut, automatically, 1000 dozen half hose tops, or cut, and automatically pile in heaps of one dozen each, from 400 to 700 dozen misses tops, according to length, per day.

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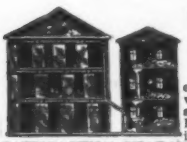

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For the handling of wool and cotton stock, rags, excelsior, jute and all kinds of fibrous material, wet or dry. Also spool elevators, steam heating and ventilating, and mill work generally. Blower and fan work a specialty. This conveyor is patented. Beware of infringement.

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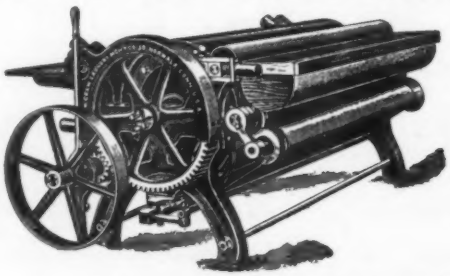

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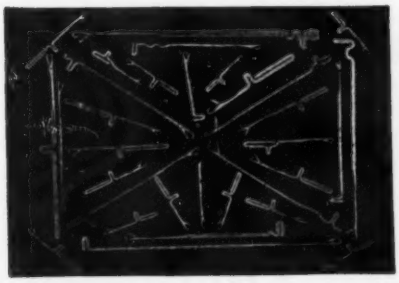

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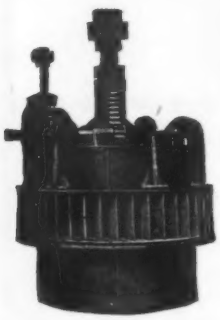

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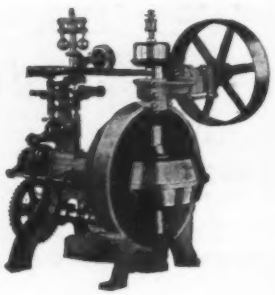

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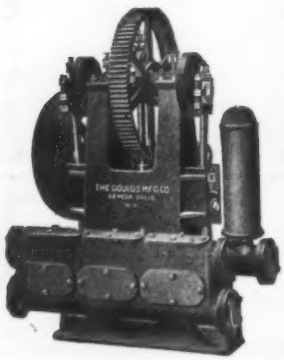

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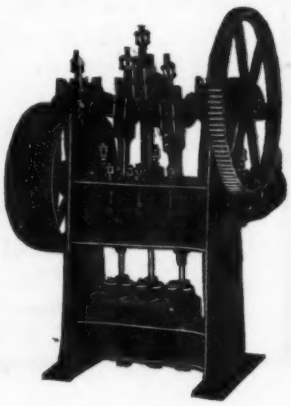

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Maintains any desired temperature throughout the mill. Avoids the necessity of keeping up steam over night, as starting the apparatus a half hour before whistle time makes every room warm when work begins. Adaptable to any and all kinds of buildings. Same apparatus used in summer for ventilation.

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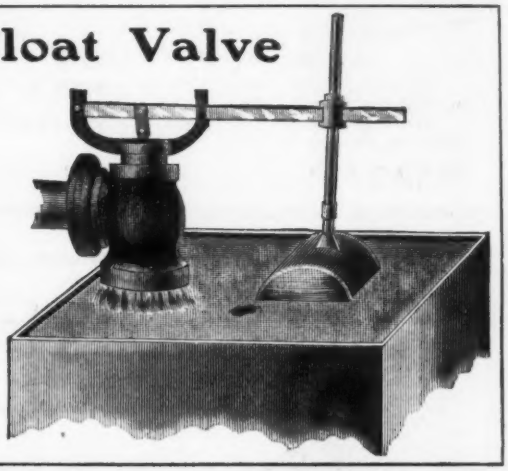

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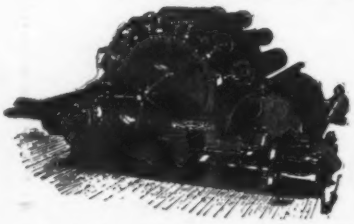
For reducing to Fibre Cotton and Wool Waste, Cloth Clippings, Etc.



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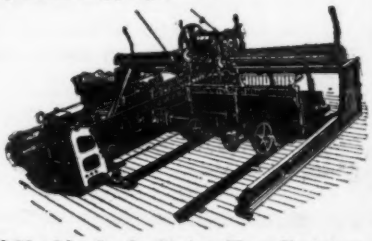

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Complete Equipment for Manufacturing Cotton Batting for All Purposes.

Special Carding and Spinning Machinery for manufacturing Yarn from such low grade stock as Mill Sweepings, Linters, Etc.

We reclothe or furnish new Metallic Toothed Cylinders and Rolls and relagg or furnish new Cylinders for any make of Rag Picker.

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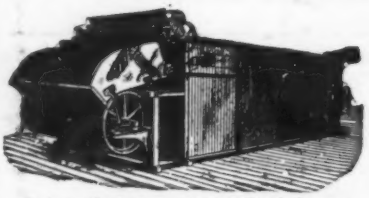
For Cotton Stock, Wool Stock, Rags, Yarn, Cloth Underwear, Stockings, etc.



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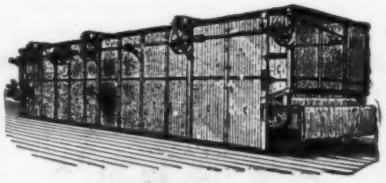

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Connected with Water Mangles

They give a continuous run, yardage limited only by the speed of the Water Mangle and the time wasted by trucking, stopping, etc. is saved.

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The combination Hot Flue and Drier, means less seconds and no tender goods, because the fabric is partially dried before it comes in contact with the hot metal.

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Where production is an object, our overhead installation is absolutely necessary when printing blotches or well covered work.

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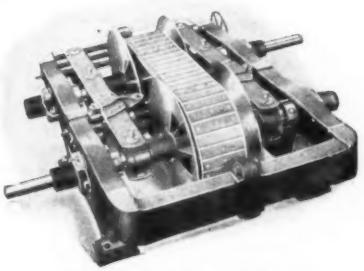

for regulating the speed of the tenters, dryers, mangles, printing, bleaching, dyeing and mercerizing machines, etc., produces the best and the most at the lowest cost, because it gives the ***exact speed*** best suited to the work.

Ask those using it.

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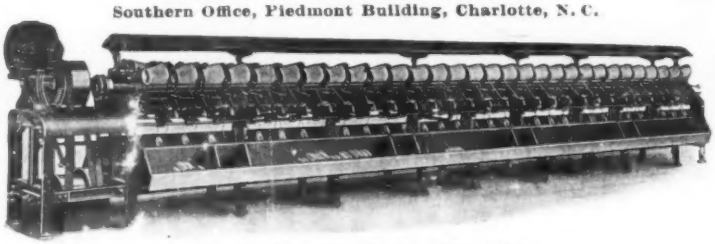

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New Model No. 12 Cone and Tube Winder.

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1. More carding on our 2-card set than on 3-card set, old style.
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4. The only improvement on cards that has been proven a success. Come and see them running.

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